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The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Every Thursday TULSA, OKLAHOMA, JANUARY 16, 1930 $6.00 a Year

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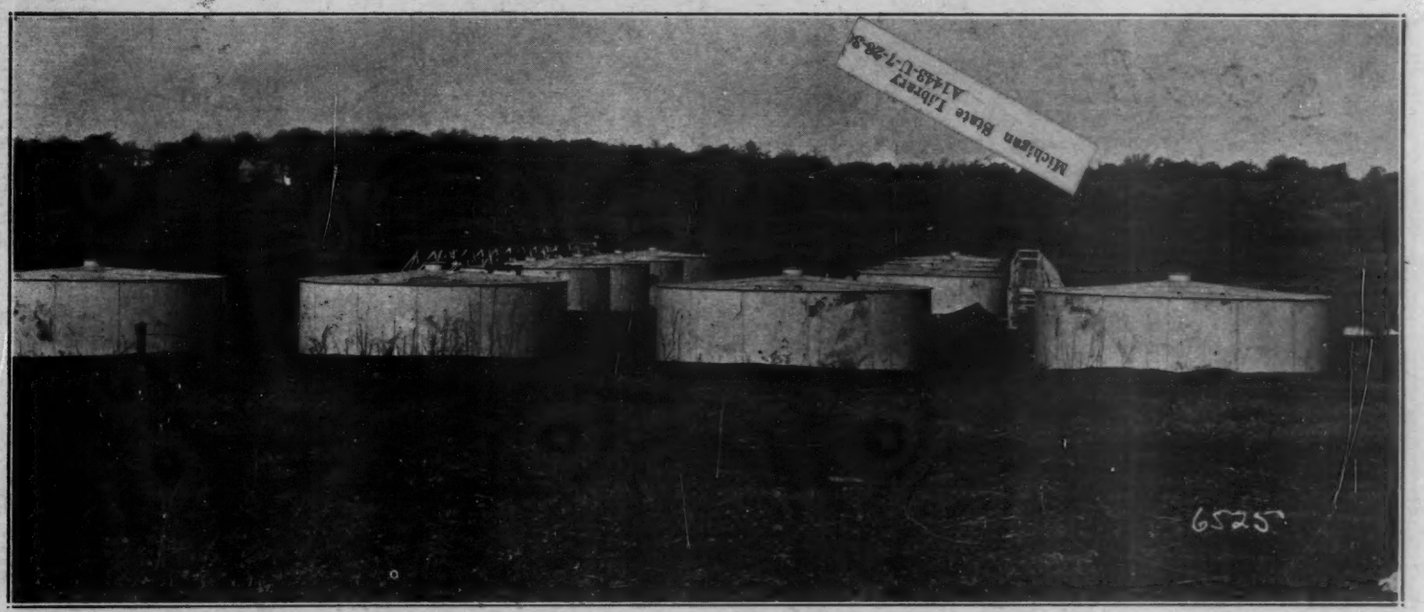

Twelve Low-Type 500-Bbl. Maloneys on I.T.I.O. Co.'s Konfield No. 1, Oklahoma City. Erected by distributer, Maloney Sales Corp.

Safe Storage is as Important as Efficiency in Producing—

Maloney A.P.I. Bolted Steel Tanks conform to A.P.I. dimensional standards, and carry the official A.P.I. monogram.

MADE OF AMERICAN

No matter how much oil you produce, you haven't made a cent until it is delivered to the pipe-lines. Since breathing losses from lease storage are a direct loss from your income, it is just as important to prevent waste of your oil between the well and the pipeline as it is to produce that oil efficiently.

MALONEY Vapor-Pressure Flow and Stock Tanks provide safe storage of the highest type. These tanks are equipped for operation under pressures up to 16 ounces. The vapors generated by the heat of the sun are conserved and turned back into oil during the cool of the night. The full quantity of oil is maintained at the well gravity. Fire hazard is reduced and insurance costs lowered.

MALONEY Vapor-Pressure Tanks soon pay for themselves in the oil they save. You'll add to your income without adding to your expenses by equipping your leases with our tanks.

"Alone in Quality"

MALONEY TANK MFG. CO.
Tulsa, Okla., U.S.A.

Distributers at All Principal Petroleum Points

MALONEY

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

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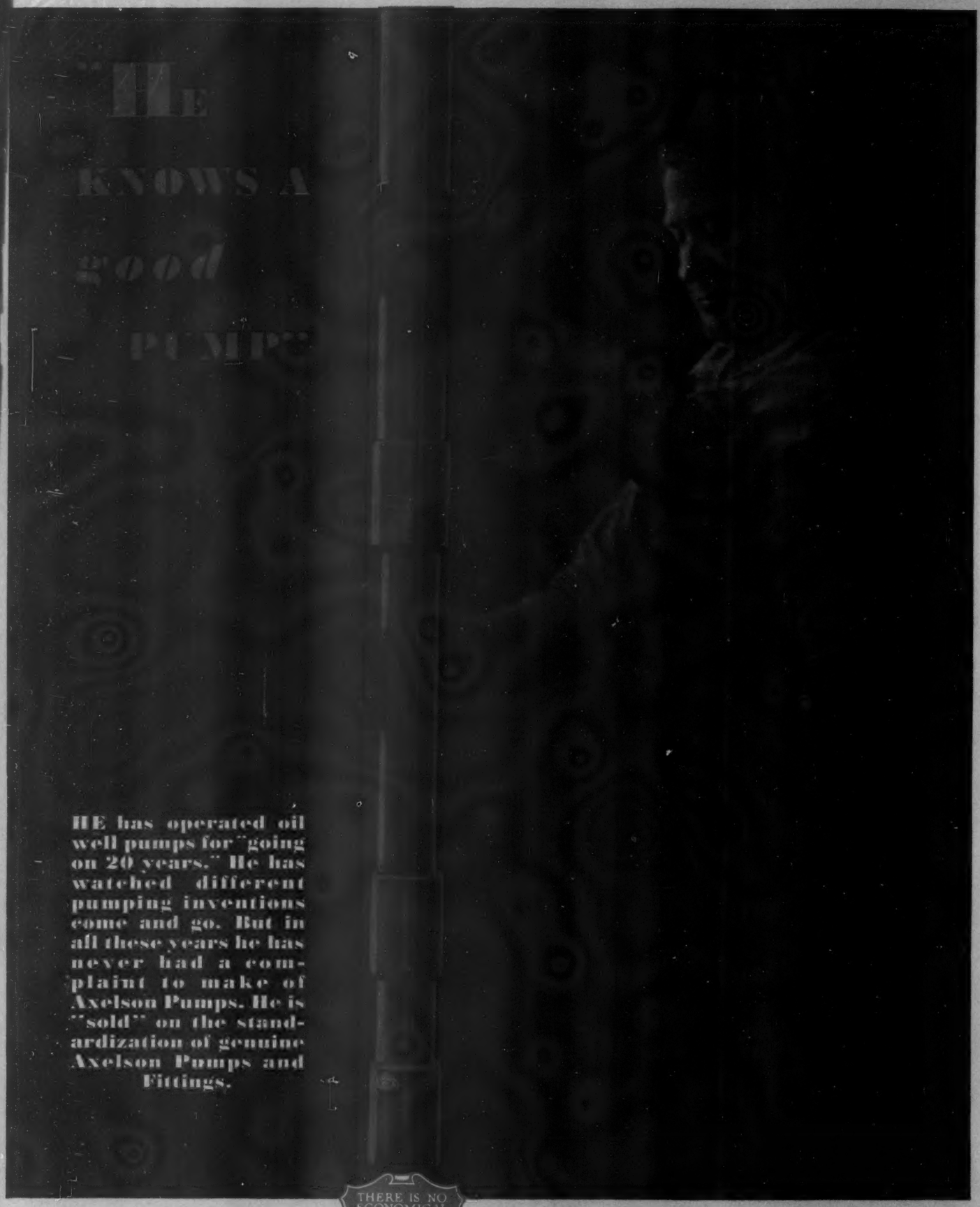
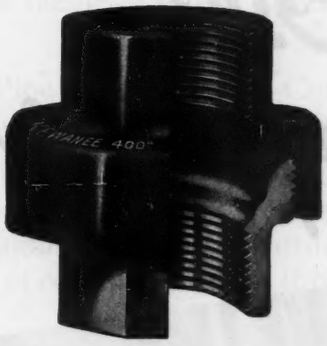


HE has operated oil well pumps for "going on 20 years." He has watched different pumping inventions come and go. But in all these years he has never had a complaint to make of Axelson Pumps. He is "sold" on the standardization of genuine Axelson Pumps and Fittings.

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

Axelson Machine Co.
P. O. Box 237, Los Angeles . . . Tulsa . . . St. Louis
New York City, 30 Church St.
Mid-Continent and Eastern Distributers—
Frick-Reid Supply Corporation

Axelson INTERCHANGEABLE LINER *Pumps*



THE
KEWANEE 400 UNION

Specify
WALWORTH
VALVES
FITTINGS
AND TOOLS
for
OIL

GET BEHIND PROSPERITY

Keep industry going. ● Every kind of business can help in the national effort to maintain prosperity on its present high level. ● How? By putting into effect NOW long-delayed plans for improvements in plant equipment, for new building, for reconditioning. ● In every industry the piping system is of first importance. ● But its life and service are limited by the quality of the valves and fittings that control the flow of its contents. ● For dependable service under severe operating conditions, insist upon Walworth valves and fittings. ● We make the complete line and a Walworth distributor can supply all your needs.●

THE KEWANEE 400 UNION

The one union that won't "freeze" on the line. ● Its forged-steel to forged-bronze thread connection simply can't corrode. ● A turn of a wrench on the ring does the trick . . . any time. ●

WORKING PRESSURE RATINGS

Service	Working Pressure	Temp.
Kewanee 400 Union		
1/8" to 3" Steam	400 lbs.	500° F.
Cold Oil, Water or Gas (Non-Shock)	2000 lbs.	100° F.
Kewanee Union (Malleable Ring)		
3 1/2" and 4" Steam	200 lbs.	450° F.
Cold Oil, Water or Gas (Non-Shock)	500 lbs.	100° F.

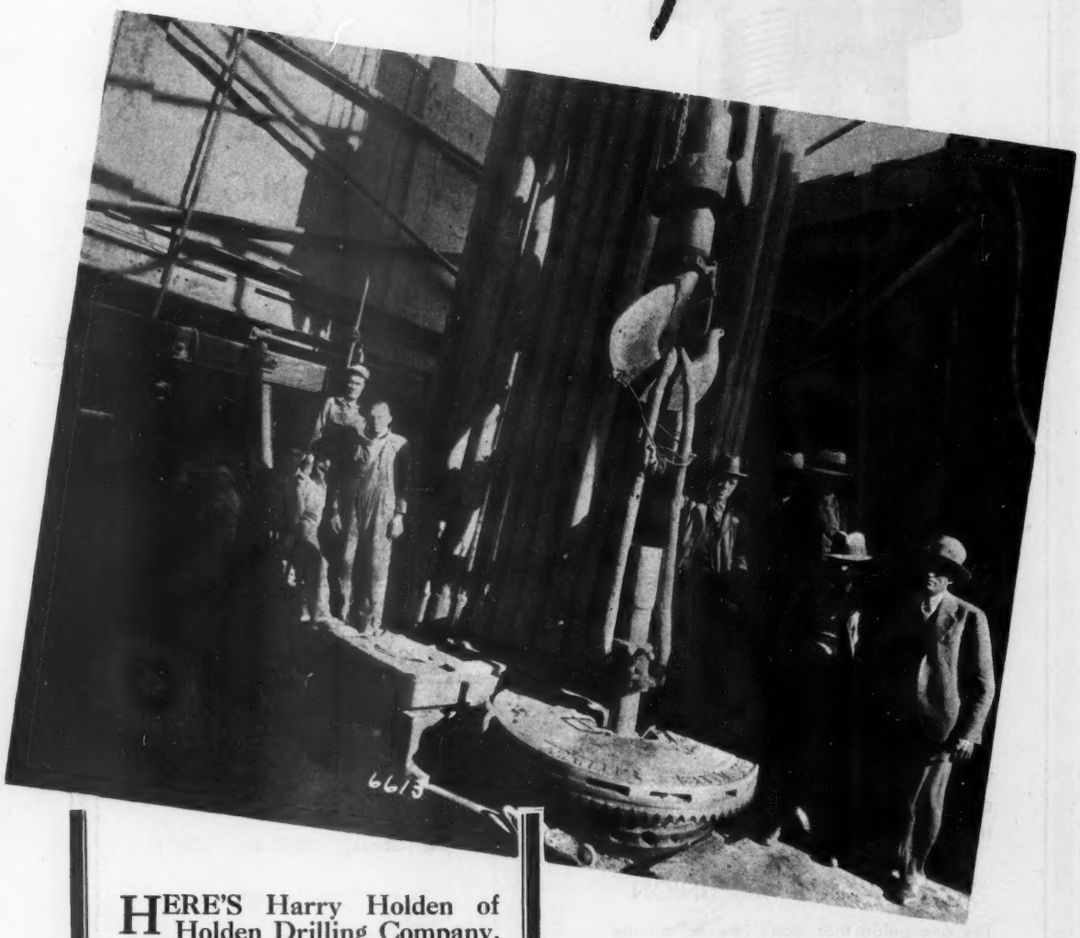
WALWORTH

Walworth Company, General Sales Offices: 51 East 42nd St., New York
Plants at Boston, Mass.; Kewanee, Ill.; Greensburg, Pa.; and Attalla, Ala.
Walworth Company Limited, 620 Cathcart St., Montreal, P. Q.
Walworth International Co., 11 Broadway, New York, Foreign Representative

. . . Distributors in Principal Cities of the World . . .

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.

These Spengler joints are O.K.
Harry Holden



HERE'S Harry Holden of Holden Drilling Company, down 5,246 ft., on Hall and Briscoe's well in Oklahoma City field and GOING STRONG with Spengler Joints. Endorsement of Spengler Joints by men like Holden means something. Spengler Tool Joints meet A. P. I. specifications and have unusually high tensile strength.

We assure immediate delivery and your inquiry is invited.

SPENGLER TOOL COMPANY
OKLAHOMA CITY, OKLA.

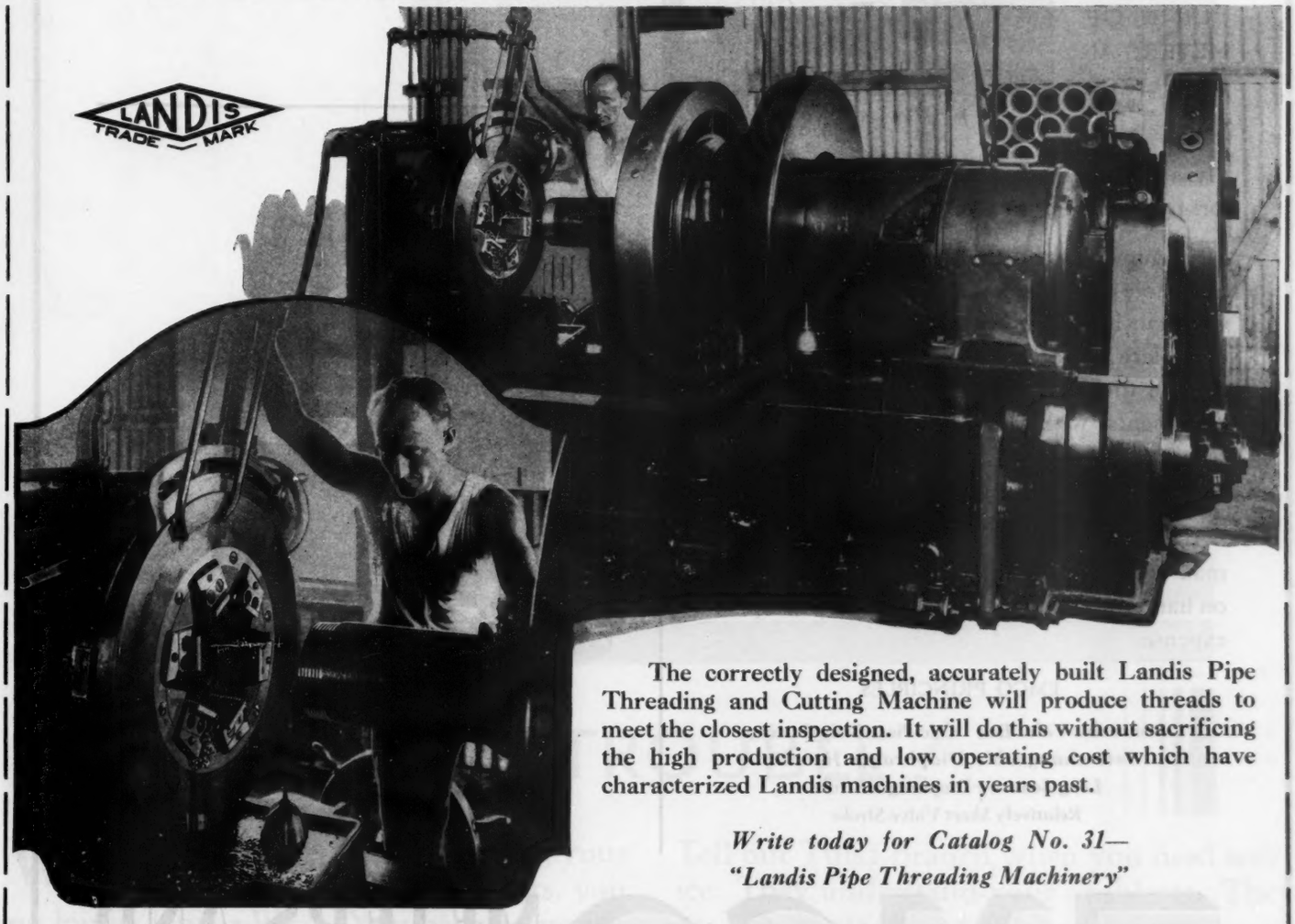
SPENGLER'S TOOL JOINTS

WITH the advent of deeper wells and higher pressures, greater burdens than heretofore experienced will be thrown on oil country tubular goods.

Threads invariably determine the strength of casing, tubing and drill pipe. To maintain a reasonable factor of safety, closer inspection for thread form, taper and finish will be required.

The Landis Pipe Threading and Cutting Machine with the patented Landis chaser will eliminate guesswork as to thread accuracy.

The Landis chaser is a natural threading tool. Operating on the same principle as a lathe tool, its shearing cut insures a clean, well-formed thread. Its original accuracy is not affected by regrinding—the *entire* cutting edge is renewed and is *always* on cutting center. A full length of correctly tapered thread is obtainable throughout the life of the chaser.



The correctly designed, accurately built Landis Pipe Threading and Cutting Machine will produce threads to meet the closest inspection. It will do this without sacrificing the high production and low operating cost which have characterized Landis machines in years past.

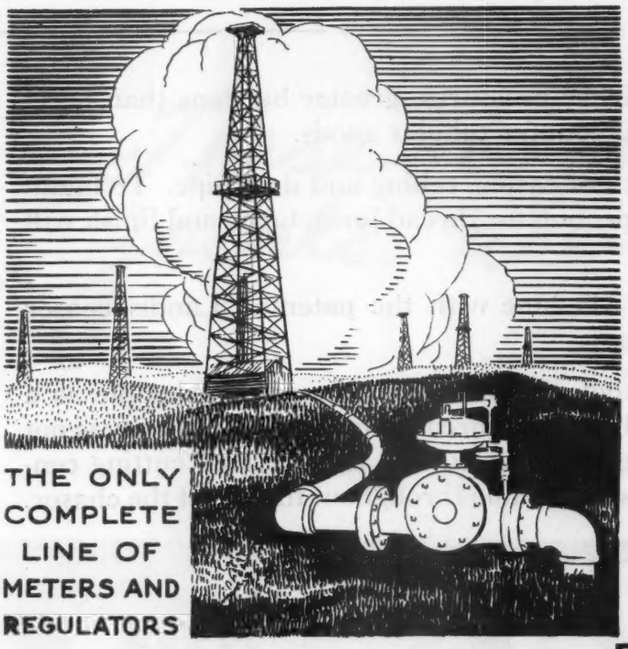
Write today for Catalog No. 31—
"Landis Pipe Threading Machinery"

LANDIS MACHINE COMPANY, Inc.

Waynesboro, Penna., U. S. A.

Detroit Office—5928 Second Blvd.
Cleveland Office—504-505 Marshall Bldg.

REPRESENTED IN THE DOMESTIC OIL FIELDS BY: Colcord-Wright Machinery & Supply Co., St. Louis, Mo.; D. S. Mair Machinery Co., Houston, Tex.; Woodward, Wight & Co., New Orleans, La.; Herberts Machinery & Supply Co., Los Angeles, Calif.; Herberts Moore Machinery Co., San Francisco, Calif.; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.



THE ONLY COMPLETE LINE OF METERS AND REGULATORS

AT THE WELLS -EMCOS

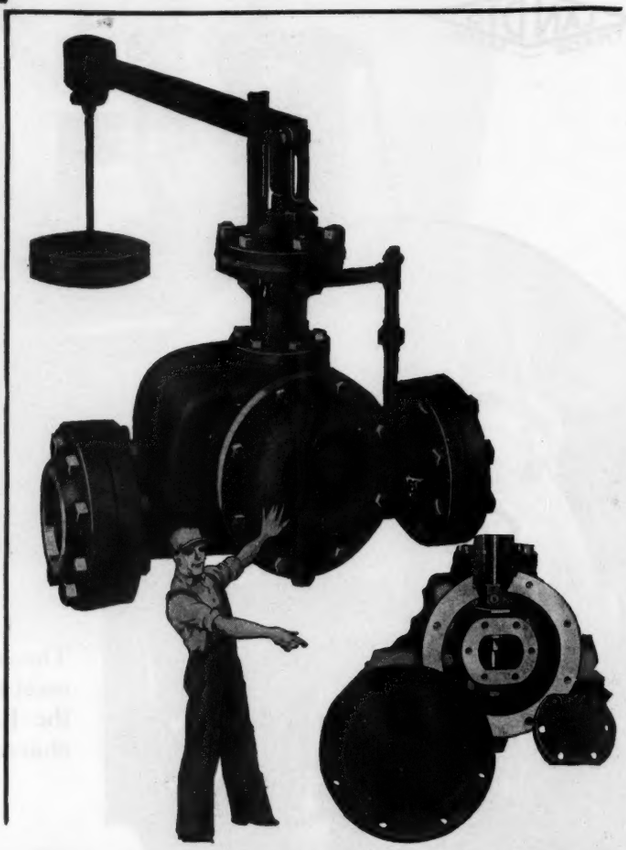
It is never necessary to remove EMCO Regulators from the line to make adjustments or repairs.

By removing the outer cover and the valve box hand hole plate, the valves, valve seats and valve stem can be readily inspected. If it is necessary to replace these parts, it is a simple matter to remove the valve box and make repairs or replacements, without in any way affecting the regulator connections. This removable valve box is an exclusive EMCO feature.

All parts of these regulators are interchangeable, making it possible to have complete assemblies on hand thus eliminating unnecessary delays and expense.

EMCO PRINCIPLES

Removable Valve Box · One Piece Body Casting
Interchangeable Diaphragm Heads
Long Sensitive Diaphragm Stroke
Relatively Short Valve Stroke



EMCO METERS AND REGULATORS

PITTSBURGH EQUITABLE METER COMPANY

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CALL TULSA *to* SAVE TROUBLE!

WHEN you allow some one to repair your Wico Magneto with *inferior* parts, you no longer have a Wico. You have an uncertainty. And that's one thing you *don't want!*

That's why we established a direct factory branch at Tulsa — so you can *always* get *genuine Wico* parts for your Wico Magneto —and repair service by Wico-trained men.

Tell our Tulsa Branch when you need service. They understand your problems. They are always ready and able to help you.

- FACTORY BRANCH -

121 WEST 8TH STREET

TULSA, OKLAHOMA

WICO ELECTRIC COMPANY

SPRINGFIELD, Massachusetts

An Announcement of interest to all PIPE BUYERS

TONCAN Copper Molybdenum Iron, known for its rust and corrosion resistance in scores of industries, is now available in a full range of sizes in casing, tubing, drill pipe, drive pipe, line pipe and in all the usual sizes and weights of pipe used in refinery service.

Exhaustive tests in the laboratory and in the field over a long period of time have proved Toncan Iron the ideal pipe material for oil country service.

Upon request, records made by Toncan Iron Pipe in the oil country will be sent you. Let us make recommendations concerning specific installations you may have in prospect.

REG.U.S.PAT.OFF.
TONCAN
COPPER
MO·LYB·DEN·UM
IRON PIPE

As protection to you, we mark it blue.

Sold Exclusively by

REPUBLIC IRON & STEEL COMPANY
YOUNGSTOWN, OHIO

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A 16" STEEL VALVE

for Gas Pipe Line, Cold Water and Oil—400 pounds and 500 pounds working pressure.

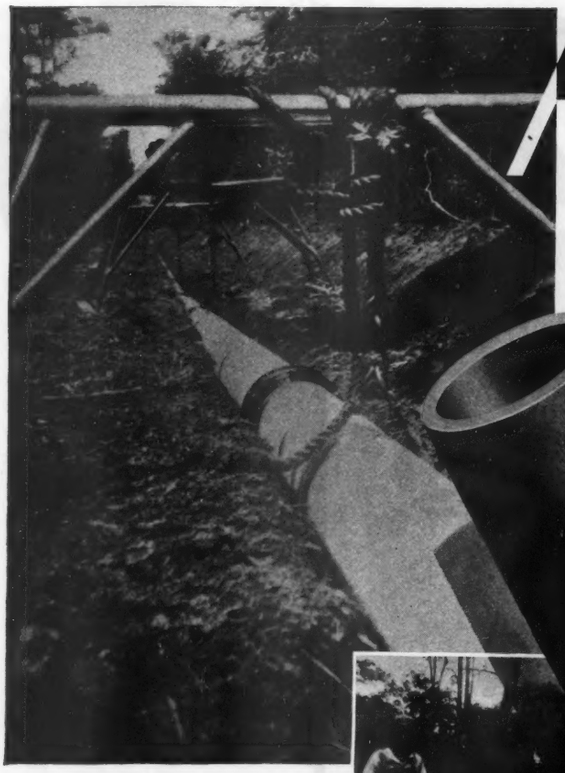
This valve is made in the following sizes: 8" 10" 12" 14" 16" 18" 20"

Electric Steel, Bronze Mounted, Stainless Steel Stem. Face to face and flange dimensions check with valves of same pressure ratings usually made in iron—an exclusive Westcott product.

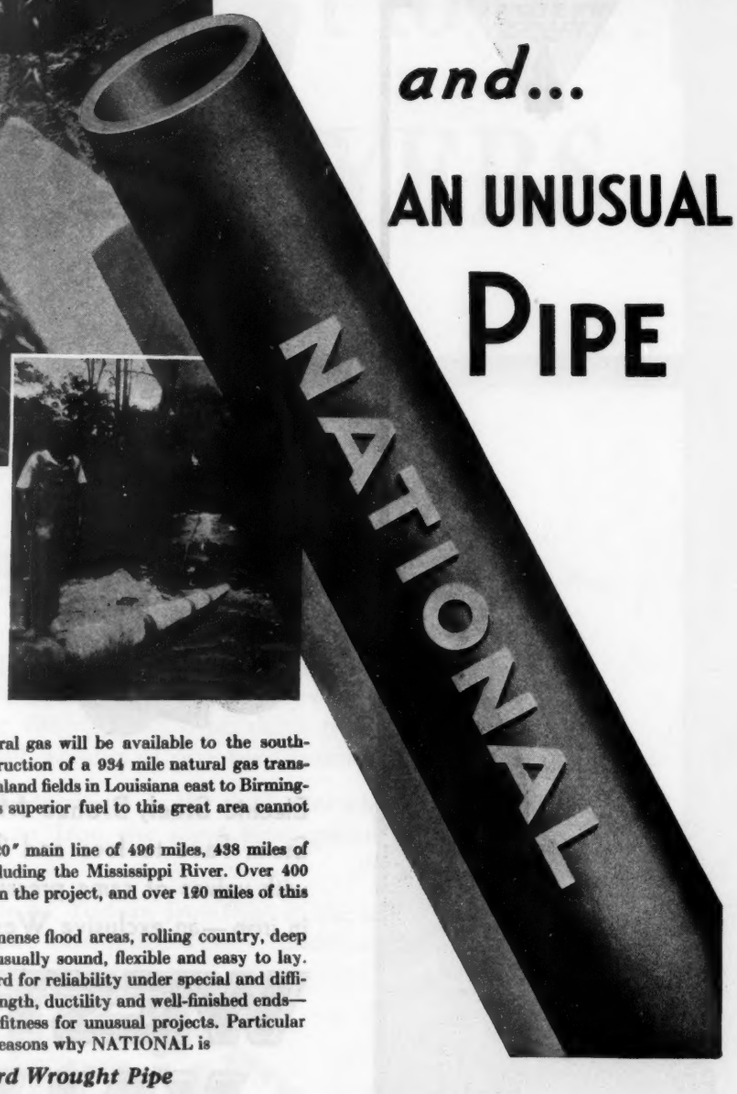
WESTCOTT VALVES

Manufactured by the Westcott Valve Company, East St. Louis, Illinois. Manufacturers of products for the Oil and Gas Industries exclusively. Full stocks carried in East St. Louis and all stores of the Continental Supply Company.

J 585



AN UNUSUAL PROJECT *and...* AN UNUSUAL PIPE



BIRMINGHAM GAS LINE
of
Southern Natural Gas Corporation
FORD, BACON & DAVIS, INC.
Engineers

FOR the first time in history, natural gas will be available to the southeastern states as a result of the construction of a 934 mile natural gas transmission system from the Monroe and Richland fields in Louisiana east to Birmingham and Atlanta. The importance of this superior fuel to this great area cannot be overestimated.

The construction includes a 22″ and 20″ main line of 496 miles, 438 miles of branch lines, and 17 river crossings, including the Mississippi River. Over 400 miles of NATIONAL Pipe is being used in the project, and over 120 miles of this will be in double random lengths.

Pipe lines that cross mighty rivers, immense flood areas, rolling country, deep ravines and rock formations, must be unusually sound, flexible and easy to lay. NATIONAL Pipe's well-established record for reliability under special and difficult conditions—resulting from great strength, ductility and well-finished ends—is substantial evidence of its particular fitness for unusual projects. Particular fitness for unusual projects is one of the reasons why NATIONAL is

America's Standard Wrought Pipe

NATIONAL TUBE COMPANY

Frick Building, Pittsburgh, Pa.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

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Pacific Coast Distributors—United States Steel Products Company, San Francisco, Los Angeles, Portland, Seattle, Honolulu. *Export Distributors*—United States Steel Products Company, New York City

Here's 8-Way Accident Insurance on Your Drilling String

From a standing start, five years ago, to standard equipment on wells in every important oil field in the world—that's a record for the Baker Drill Pipe Float that tells its own story of greater economy and efficiency in operation. ¶ There are always good reasons behind any such phenomenal success. Here are a few reasons for the universal adoption of the Baker Drill Pipe Float: ¶ It relieves the weight on the derrick and rig equipment, as well as the lines and draw works. ¶ It lengthens the life of the wire lines and the brake bands. ¶ It floats the string down the well gently and safely. ¶It minimizes—often prevents entirely—any accident or damage in case the string should part. ¶ It prevents the plugging of the bit, and the resultant loss of time. ¶ It eliminates disagreeable wet jobs. ¶ It does not—cannot—plug the circulation. ¶ In extreme case of necessity, the back pressure valve may be broken out easily. ¶ The sturdy construction of the Baker Drill Pipe Float and its patented Valve Assembly are easily discernible in the illustration below, and it will also be noted that there is ample space for circulation. The lugs on the bottom of the Valve Assembly prevent it from stopping circulation.

Detailed Information Will Be Mailed on Request

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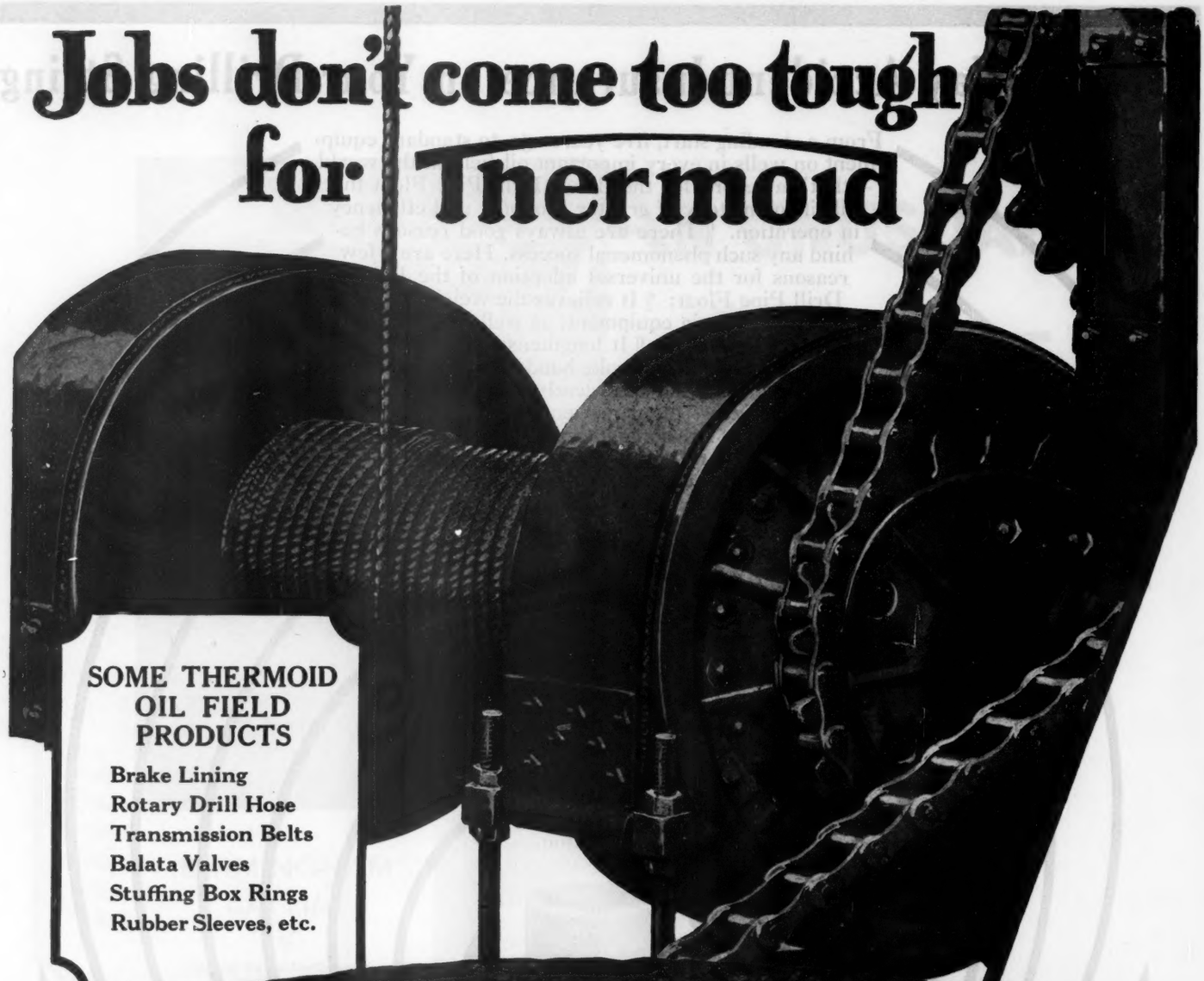
Don't Use Cast-Iron Equipment — Cement is Stronger and Better

Stocks carried by Dealers in all active Mid-Continent fields.

Jobs don't come too tough for Thermoid



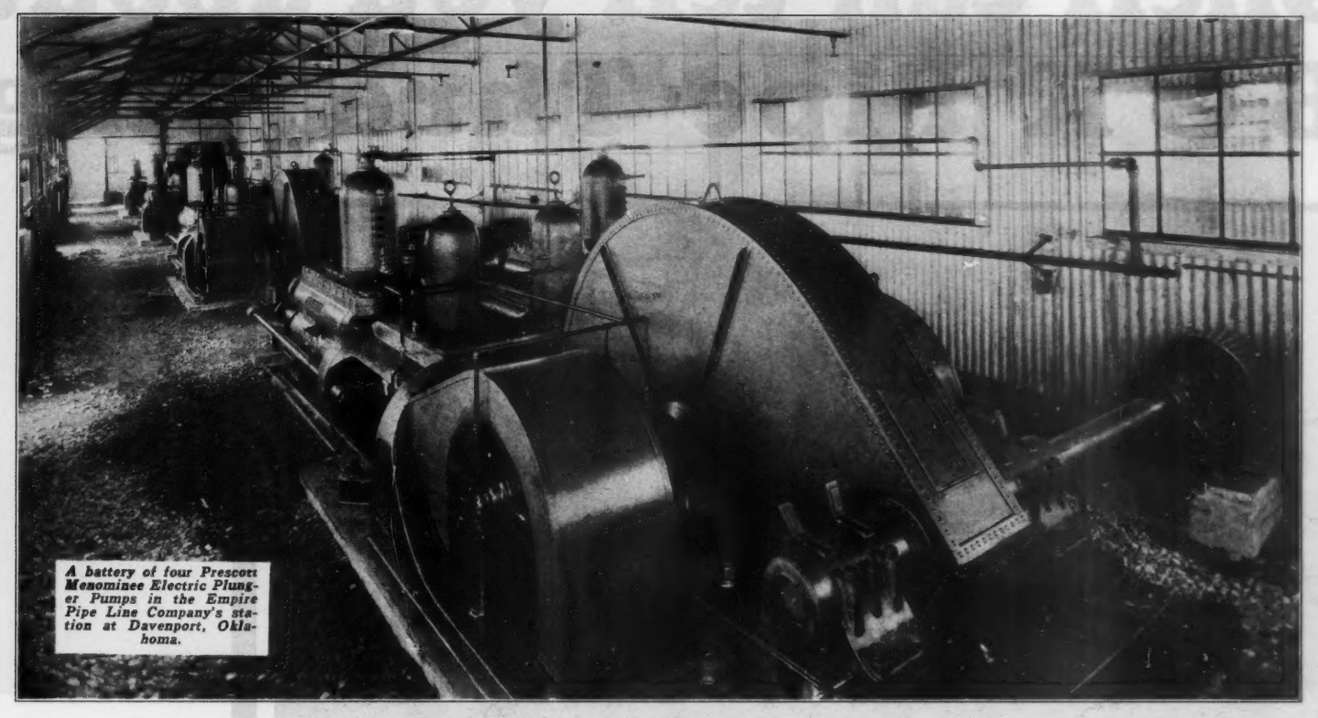
SOME THERMOID OIL FIELD PRODUCTS

Brake Lining
Rotary Drill Hose
Transmission Belts
Balata Valves
Stuffing Box Rings
Rubber Sleeves, etc.

Thermoid

BRAKE LINING

THERMOID RUBBER COMPANY - *Factories and Main Offices* - TRENTON, N. J.



A battery of four Prescott Menominee Electric Plunger Pumps in the Empire Pipe Line Company's station at Davenport, Oklahoma.

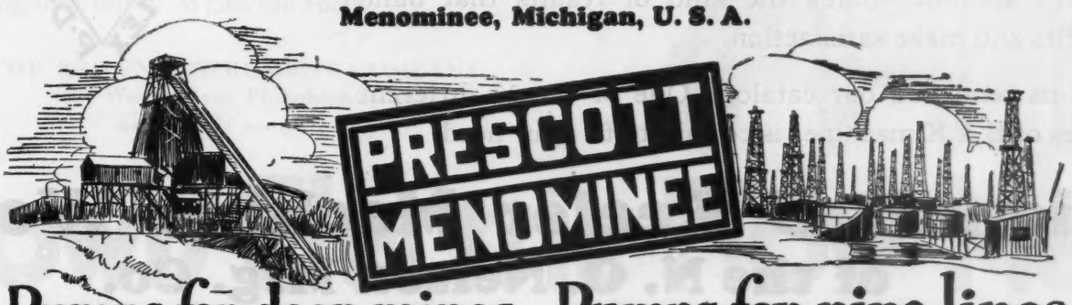
NON-STOP SERVICE
distinguishes Prescott Pumps

PRESCOTT Menominee pumps keep working all the time. They keep the oil moving, day and night, without stopping. They are built to stand up under the most severe service possible in pipe line pumping.

And you can save money, too, with these dependable pumping units. They require less power and maintenance charges are reduced to an absolute minimum.

Send for performance records, catalogs, or any information you need to help you lick your pumping jobs. Our engineers will be glad to advise you without obligation of any kind.

The Prescott Company
Menominee, Michigan, U. S. A.



Pumps for deep mines ~ Pumps for pipe lines

OGJ 1-16-Gray

Shell can tell you about B & K Pipe Threading

Shell Petroleum Corp., Oklahoma City, Okla.

WAY back in 1922, the Shell Petroleum Corp. bought this Bignall & Keeler pipe threading machine. Since then it has been used on a different new plant job every single year. Seven long years of the hardest kind of use and still going strong—out in the open most of the time, pounding away on the hardest kind of work. Everybody using it, and as usual, everybody too busy to do anything more than feed it, job after job.

That's stamina—that's the kind of results that build profits and make satisfaction.

Let us send you our catalog. One of the 17 different types of B & K machines is certain to fit your need.

PEERLESS B&K DUPLEX P·D·Q·G

Bignall & Keeler Machine Works
of the N. O. Nelson Mfg. Co.
Edwardsville, Illinois

OGJ 1-16-Gray

"to measure is to economize"

Just change the tube and you change the range

Easy, Quick, Inexpensive!

Experience with flow meter installations shows that in 75% of the cases the original flow estimate furnished is found to be in error. Moreover, though the estimate may be correct, conditions may later greatly modify the original average flow. Therefore it is very often necessary for flow meter users to have their installation altered to provide for a different range than that originally planned for. With the Brown Electric Flow Meter such a change can be made quickly, easily and cheaply by simply substituting a new range tube of proper size in place of that originally furnished. No change of orifice. No shutdown. And SMALL COST. Brown Flow Meters measure steam, water, oil, gas, air — practically anything that flows. Write for facts.

THE BROWN INSTRUMENT COMPANY
4488 Wayne Ave., Philadelphia, Pa.
Branches in 20 principal cities

Brown Electric Flow Meter

on the Inductance Bridge Principle

Pouring cast Semi-Steel in the Braun Foundry

OUR specially cast heat-exchanger body is a conspicuously important contribution to progress in the war against corrosion. Developed by the BRAUN Research Staff in cooperation with the BRAUN foundry, this close grained, tough material possesses all the *resistance* to chemical attack characteristic of high-grade gray iron and in addition has a high tensile strength which it retains even under high temperatures applied over long periods of time.

Knowledge coupled with thoroughness—generosity in design—the best of materials—pride in workmanship—all supplemented by a *responsibility* acknowledged to exist long after delivery—these explain the world-wide use of BRAUN equipment.

C·F·BRAUN & CO., LTD.

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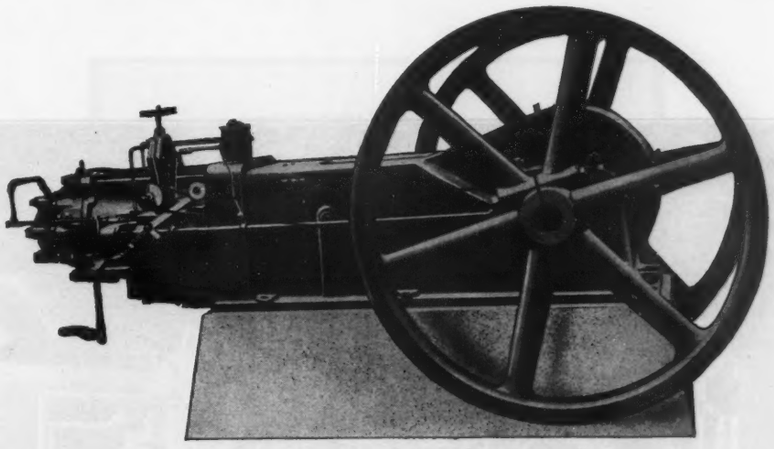


Where is the danger line?

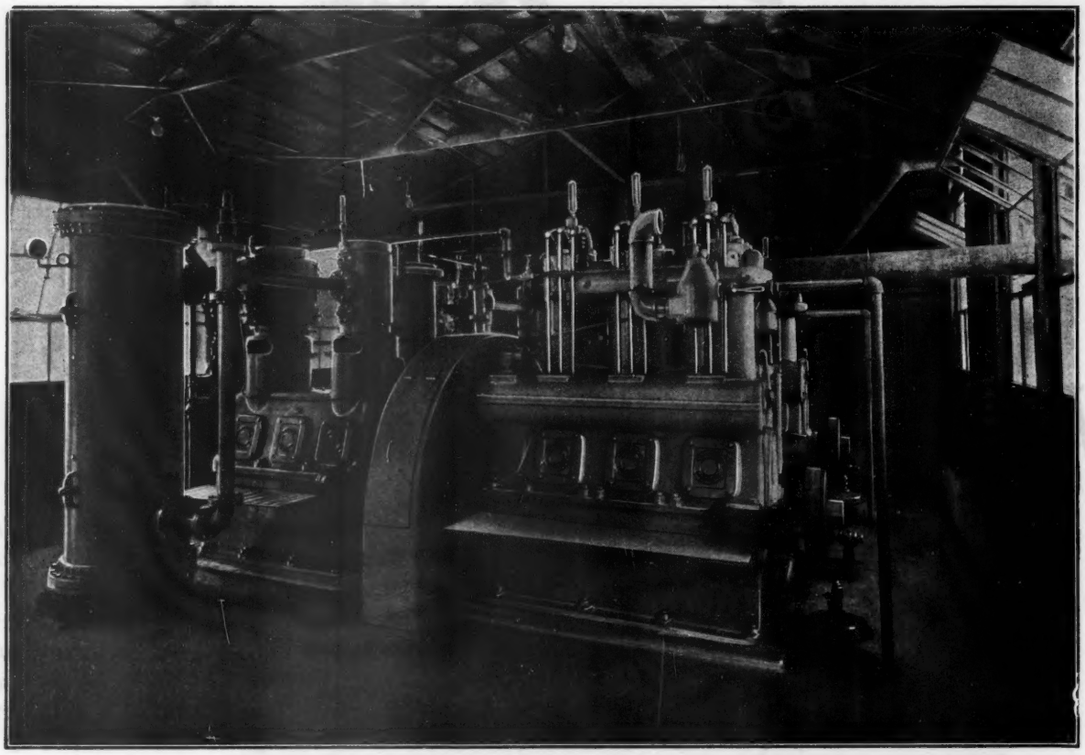
too much drilling time. When fuel, lubricating costs, repair costs, shut-down time runs up beyond reason, the danger line has been reached—and passed. The OF Oil Drilling Engine is still young, still efficient—still has a generous salvage value after 10—20—30—40 or more wells. It is built to last by men who know and understand cable tool drilling requirements. Obsolescence and depreciation are factors the users of OF Engines do not fear—they are on the right side of the danger line—and they'll stay there! Discriminating and particular investigation invited and welcomed.

The efficient use of power for cable tool drilling demands moderate weight, simplicity and fewness of operating parts, miserly fuel consumption, low lubricating costs—and a surge of power on tap for handling heavy loads at low speed — and acceleration that gives speed when required. These factors are inherent in the Franklin Valveless OF Oil Drilling Engine — plus the s-l-o-w drilling motion hard-boiled, skillful drillers demand.

A multiplicity of valves, of cylinders invariably spells trouble, a short life and

FRANKLIN
VALVELESS ENGINE CO.
FRANKLIN . PENNSYLVANIA

In
EFFICIENT
Use of
POWER
***for* Deep cable tool drilling**



An installation of two CP duplex two-stage vertical compressors, each direct-connected to a CP gas engine. Vacuum Oil Co., Lake Charles, La.

CP direct-connected oil or gas engine driven compressors provide an exceptionally compact compressed air or gas plant that cannot be excelled in ECONOMY, RELIABILITY and SMOOTHNESS of OPERATION. Capacities in this type compressor range from 423 to 3000 cubic feet per minute; pressures from 10 to 1000 pounds per square inch. Send for illustrated descriptive bulletin.

Chicago Pneumatic Tool Co.

6 East 44th Street, NEW YORK, N. Y.

Sales and Service Branches all over the World

C-288

CHICAGO PNEUMATIC

COMPRESSORS

For Peace of Mind

THE uncertainties attending oil production will probably never be eliminated, BUT why increase your risk by using valves of unknown strength?

High pressure wells and other hazardous conditions become less of a gamble when Darling Forged Steel Valves are employed. When you stop to think that these valves are made for working pressures of 1500 and 3000 pounds, you quit worrying whether they will hold out.

Darling Valve & Manufacturing Co.
Williamsport, Pa.

New York Chicago Oklahoma City Houston

Mid-Continent Distributors:
Frick-Reid Supply Corp. International Supply Co.
Petroleum Supply Co.

California Distributor:
Petroleum Equipment Company, Los Angeles

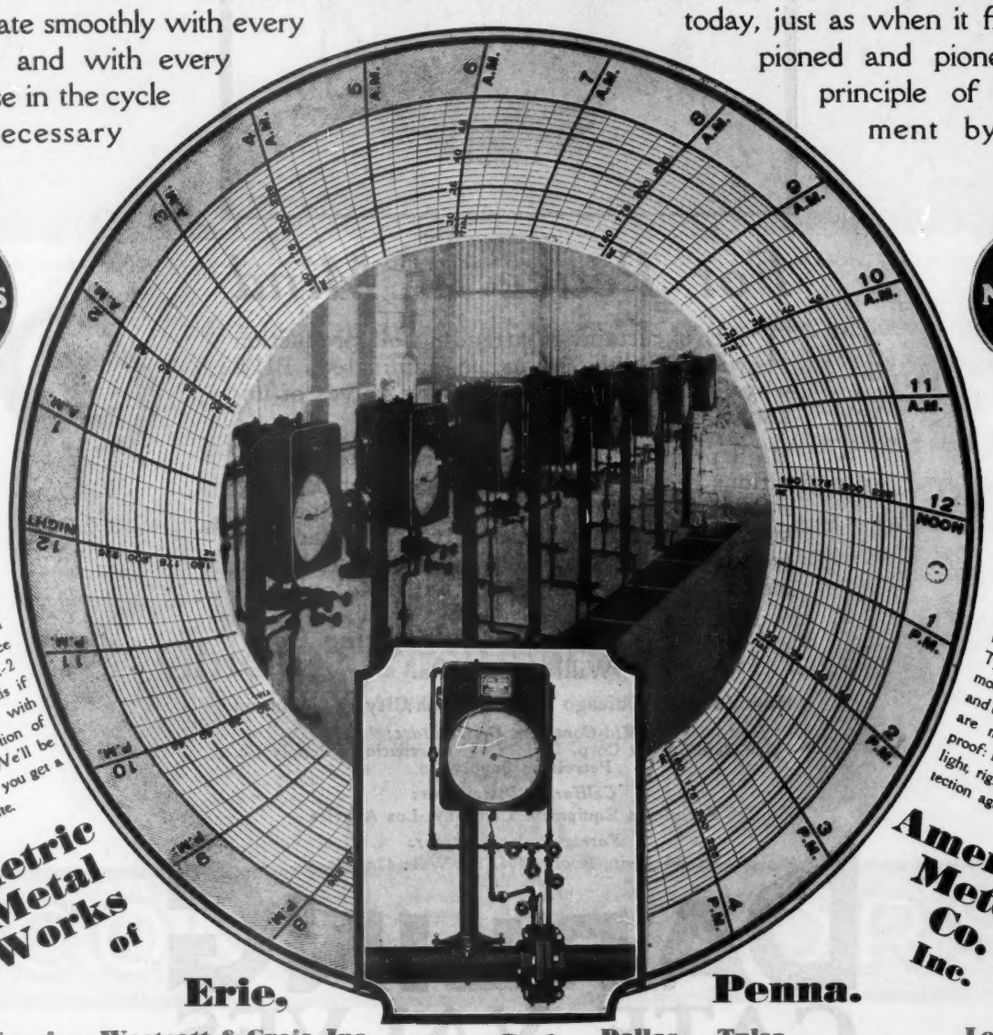
Foreign Sales Manager:
H. M. Hein, Room 1405, 152 West 42nd St., New York

DARLING GATE VALVES

Measuring Performance Champion

Differential Mechanism Chart Pen Arms Clock Float Pressure Tube Case Orifice Disc

—every part essential to measurement—is a product of Metric *energy in research which has been matured by tests* that tax its ability to exist in measurement service of all characters. Not only to exist but also to function perfectly. Not only to function without fault but to coordinate smoothly with every other unit and with every other phase in the cycle that is necessary to complete accuracy. In themselves and in their relations, one to another, Metric parts make the measurement of gas a matter of mechanical precision. Reliability in precision and in accuracy is the main reason for the popularity of the Westcott Meter today, just as when it first championed and pioneered the principle of measurement by orifice.



The most recently published Metric data on measurement by orifice Meters is in Bulletin E-2. You should have this if you are concerned with operation or selection of orifice meters. We'll be glad to see that you get a copy—just write.

Metric Metal Works of Erie, Penna.

One of the more recent improvements is the T-Type case shown in this modern installation. This and the new B-Type cases are moisture and dust-proof: made of aluminum, light, rigid, locked for protection against tampering.

American Meter Co. Inc.

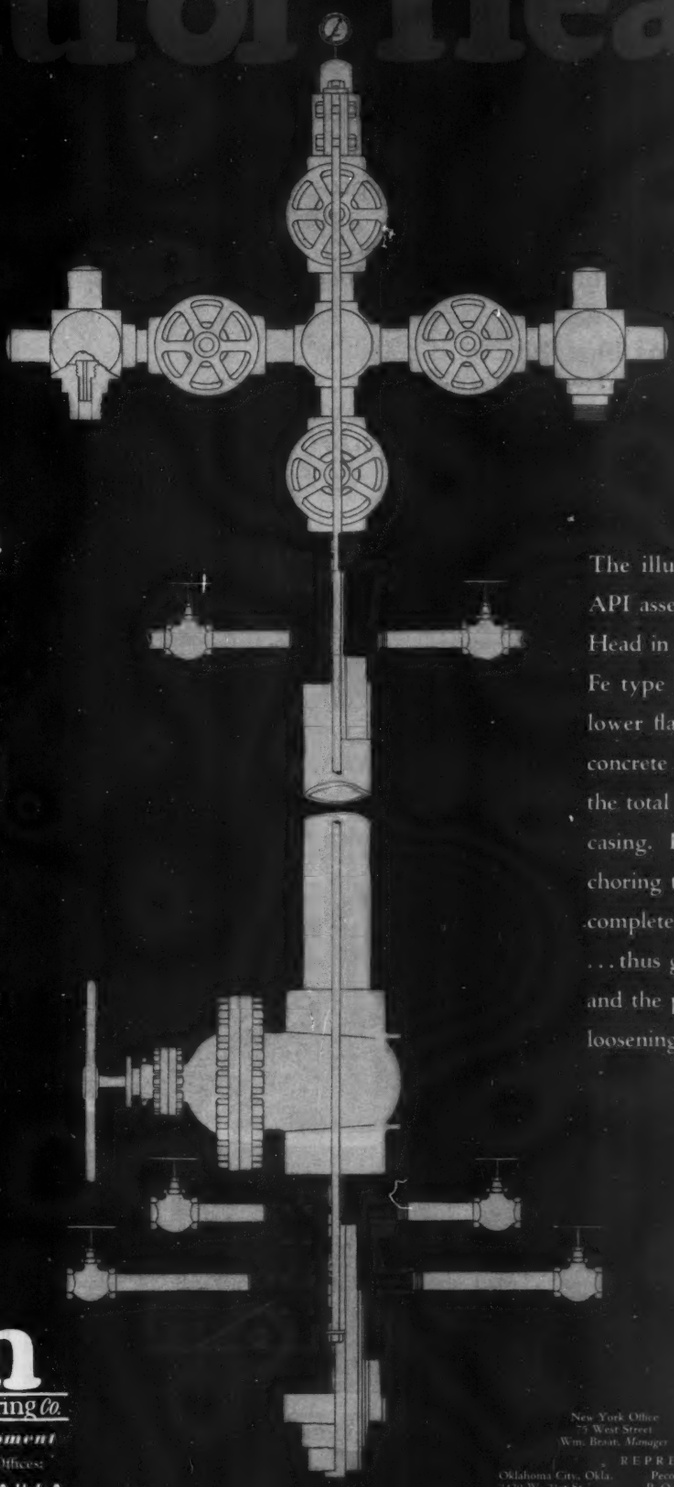
Sales Service: Westcott & Greis, Inc. Dallas Tulsa Los Angeles

METRIC orifice METERS

Regan Control Heads

for any combination of sizes for A.P.I. casing

Trout, Butler, Rasmussen, Patents



The illustration shows a typical API assembly of a Regan Control Head in combination with a Santa Fe type landing base. The large lower flange can be landed on a concrete base and will safely carry the total load of all the strings of casing. Provision is made for anchoring the tie rods for tying the complete Christmas Tree together . . . thus greatly reducing vibration and the possibility of screw joints loosening.

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P. O. Box 444

Maracaibo, Venezuela
Wm. Adams, care Amer. Consul

After you strike pay sand *then what?*

AFTER you sink the drill into the pay sand, then the big job is to get the crude out economically and efficiently.

That's just the job the G-E Type MTO two-speed pumping motor was made to do.

It completely fills all the power needs of a producer—pumping, pulling, bailing, cleaning, and even pulling casing and redrilling when necessary. And it does each job cheaply and without loss of time.

When a motor performs like that—and reliably, too—it is easy to understand why many operators install the Type MTO when they hit pay sand. That's why 6000 units, totaling 250,000 horsepower, are in use to-day.

General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G.E. readily furnishes motors, controllers, transformers, arresters and other protective devices, capacitors for power-factor improvement, switching equipment, etc.

G-E oil field specialists and G-E service at: Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.

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If to develop the science of oil well cementing you spent *hundreds of thousands of dollars;* if for this purpose alone you erected modern shops and costly laboratories; if on your payroll you maintained a staff of skilled engineers whose chief duty was to bring your cementing job to a higher and higher plane of efficiency—if you did all these things, you would be performing for yourself precisely the same service that the Halliburton company performs for the entire industry!

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OIL WELL CEMENTING CO.

Duncan, Oklahoma

"The Cementer" is a little monthly publication giving interesting information on unusual cementing problems and oil industry matters in general. To be placed on the subscription list it is necessary only to fill in and mail the coupon.

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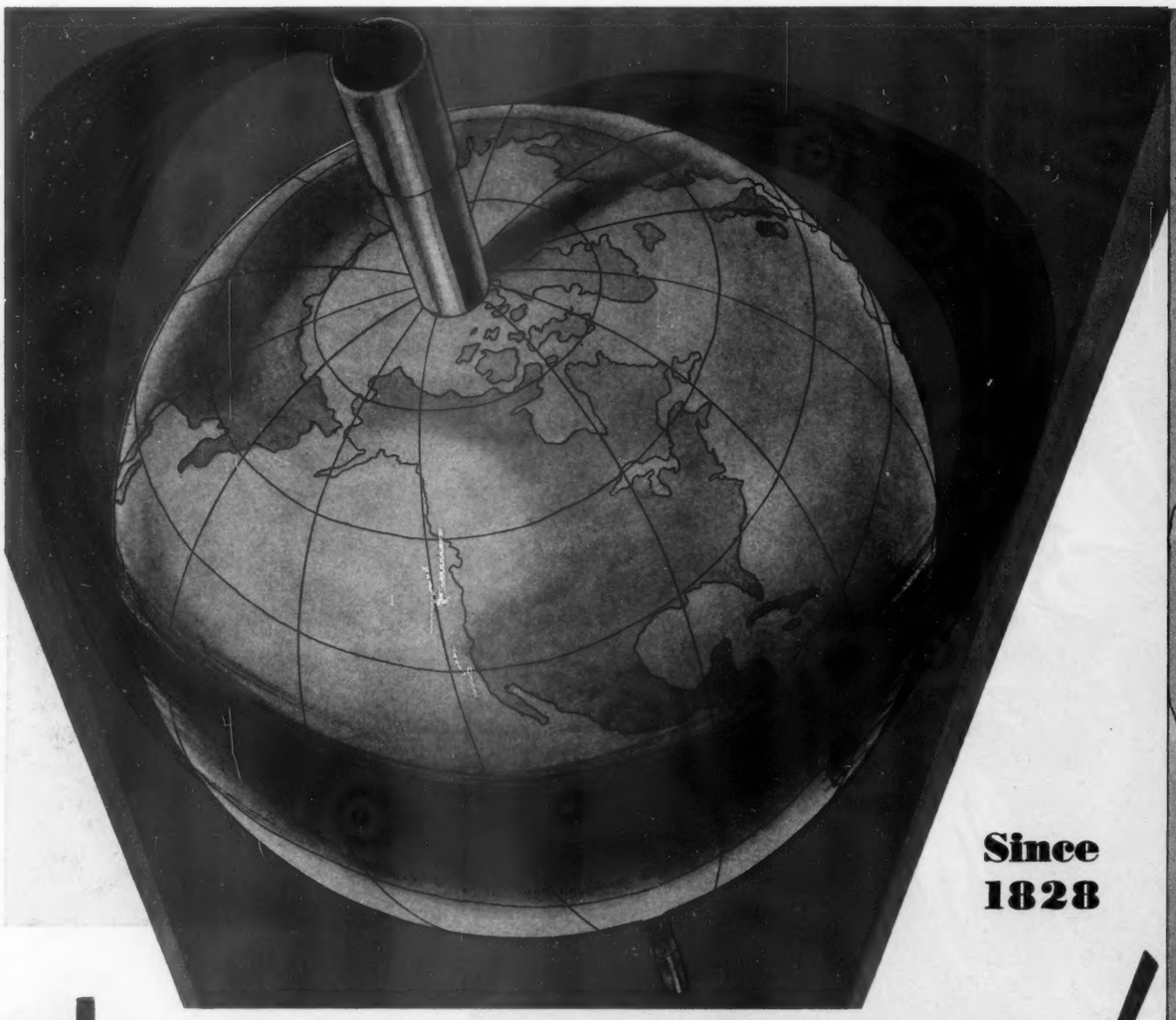

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The Oil World Accepts

STANDARD SEAMLESS

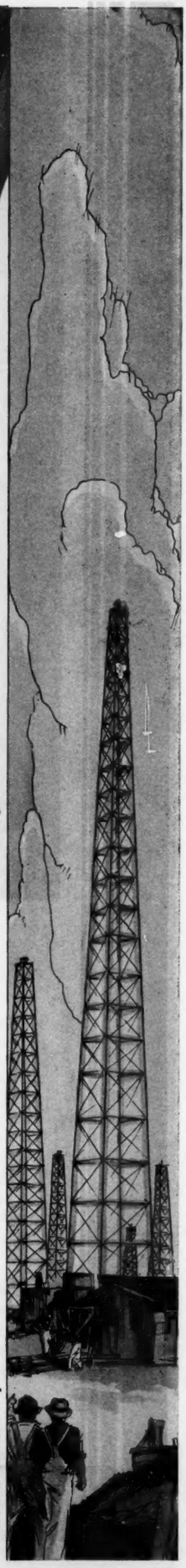
CASING TUBING DRILL PIPE *(Regular and Heat Treated)* LINE PIPE STILL TUBES

Sizes 2 inch to 13⅜ inch O. D.

SPANG WELDED

STANDARD PIPE CASING TUBING LARGE O. D. PIPE LINE PIPE

DRIVE PIPE DRILL PIPE *Sizes ⅛ inch to 24 inch O. D.*



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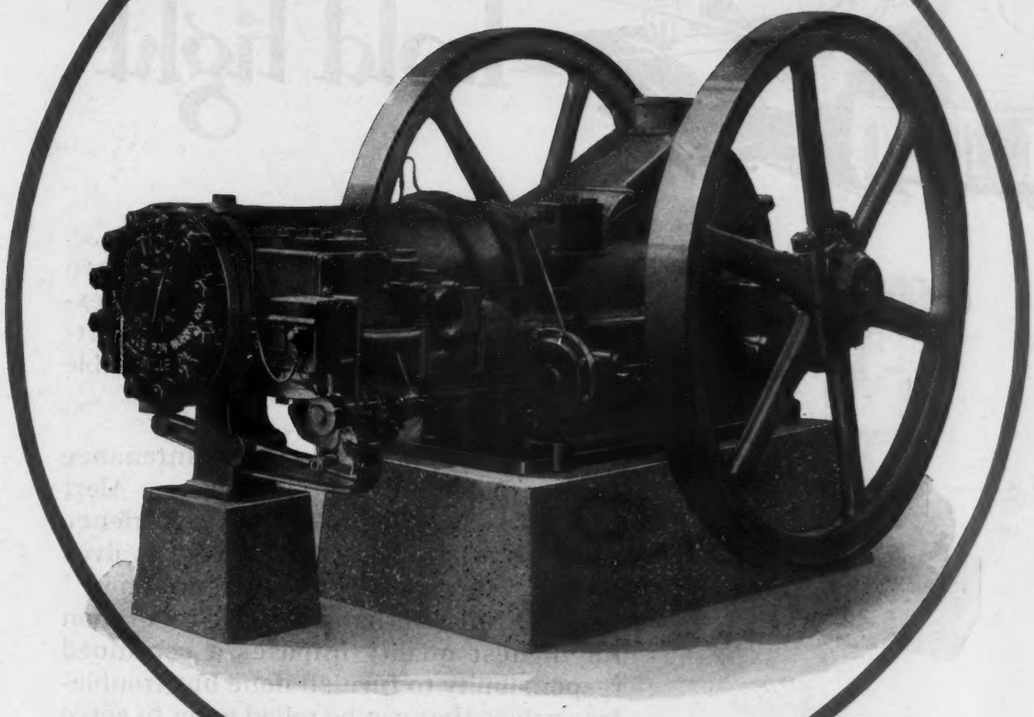
What the OIL MAN wants in a 4-cycle engine



...the TICO user gets

TITUSVILLE OIL COUNTRY
TITUSVILLE
MACHINERY
BUILT WITH RESERVE RUGGEDNESS

AND simply because the TICO Gas Engine is built by people who know what use in the oil country means. Every essential feature that present day practice demands, easy starting, power to spare, ready adaptability and economy of operation—is built right into the engine.

That's why so many oil men are using them now.

Send along your order, we can take care of it in jig time.

THE TITUSVILLE IRON WORKS COMPANY
Division of Struthers Wells-Titusville Corporation
TITUSVILLE, PA.

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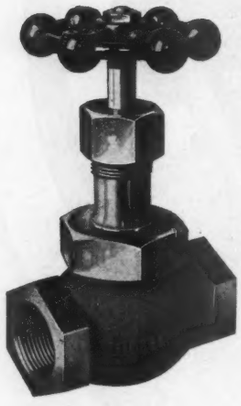
TIW No. 37

TITUSVILLE
OIL FIELD EQUIPMENT
GAS ENGINES—PUMPS—BOILERS—DRILLING RIGS—STEAM ENGINES

Install Valves *that* hold tight



Why fuss and fume with inferior valves . . . wasting time and money trying to keep them tight . . . piling up maintenance expense which eats into your profits . . . courting chances of costly delays and possible shutdowns?

Well managed plants do not countenance these avoidable items of expense. Alert engineers have learned from experience that it pays in the end to install good valves first. They specify "Lunkenheimer," knowing full well that an age-old reputation for highest quality imposes a continued responsibility to furnish none but trouble-free valves that can be relied upon to serve satisfactorily over long periods of time.

The complete Lunkenheimer line includes valves of bronze, iron and steel; gate, globe, angle, check, blow-off, non-return, pop safety and relief valves; lubricators, oil and grease cups, cocks, whistles, fittings, etc.

Descriptive literature on any of these products will be sent upon request.

If you would have the utmost in valve value . . . valves that hold tight on steam, gas, liquids, air, etc. . . . that insure maximum service with minimum attention and maintenance expense . . . specify Lunkenheimer Valves on your next order. You will have made an investment in permanent service.

Distributors located in all oil centers carry Lunkenheimer Valves and Engineering Appliances in stock. They will fill your requirements promptly.

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"QUALITY"
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LUNKENHEIMER VALVES

3-62-91

FLEXIBLE THINGS ENDURE

THE SKYSCRAPER SWAYS WITH THE WIND AND LASTS

Fully Patented

THE FLEXIBLE CUPS OF THE GUIBERSON SWAB LIFT ALL THE FLUID AND WEAR LONGER

It's the thing that gives when hit that lasts. And it's the thing that follows a jagged course with skill and precision that gets the most done with the least trouble. The skyscraper doesn't battle it out with the elements, a stiff and brittle structure. It gives to the right and left, backward and forward, and evades destruction. The Guiberson Swab runs flexible cups over wrinkles and protrusions in the casing, evading wear and destruction. Likewise these flexible cups, like webbed fingers, reach into and around such protrusions, sealing up the load and lifting every ounce of fluid. These flexible cups collapse with pressure from below, giving extremely easy passage into the hole. They are made from special composition rubber which will not deteriorate for weeks in high gravity oil. The Guiberson Swab is doing most of the world's swabbing to-day.

"Better Be Safe Than Sorry"

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Box 1106, Dallas, Texas

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BETTER BE SAFE THAN SORRY

"Linc-Weld" Superiority is due to:

1. Larger Shaft through Motor
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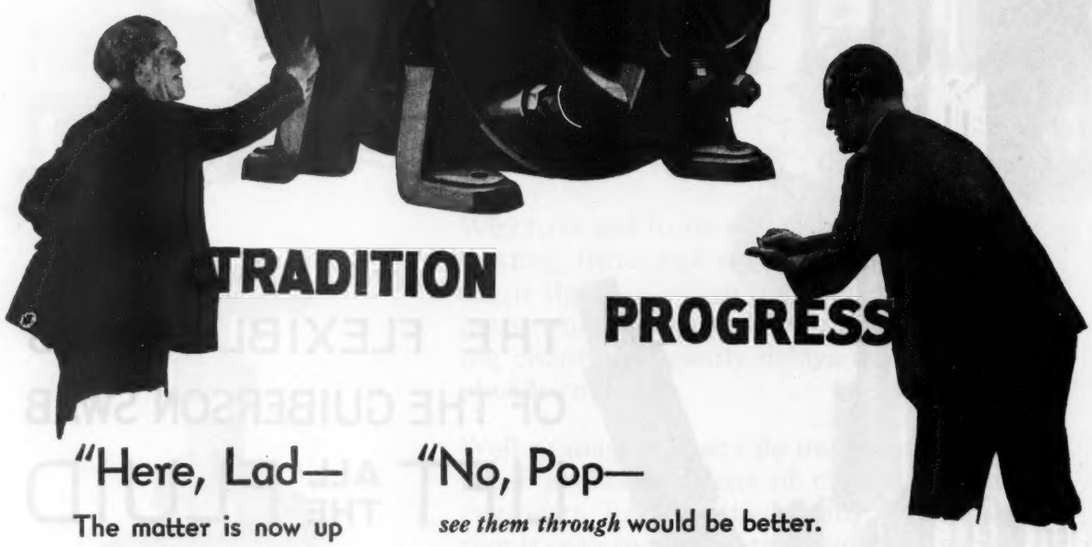
3. Better Insulation
4. Stronger Frame (Steel)
5. Greater Overload Capacity



TRADITION PROGRESS

"Here, Lad—

The matter is now up for renewal of our motor contract.

If those 'Linc-Weld' motors you talk so much about have some really evident features, I'll try to see through them."

"No, Pop—

see them through would be better.

First they're STEEL—you can SEE that, so you can see better strength and modernism.

The shafts and bearings are bigger — you can SEE that, so you can see less bearing troubles.

They have more active material and larger ventilating ducts — you can SEE that, so you can see greater overload capacity and cooler motors.

It's the *modern* motor and like the modernly dressed woman it has BACKBONE that you can SEE."

THE LINCOLN ELECTRIC COMPANY
Department No. 26—1 CLEVELAND, OHIO

M-59

LINCOLN
"LINC-WELD" MOTORS

"Trifles make Perfection, but Perfection is no Trifle"

250-barrel B.S.&B. PERFECTION Vapor Pressure Tank. There's a size for all lease requirements!

Why Oil the Atmosphere?
Why Be Heavily Penalized??

The air does not have to be oiled—why waste your crude by saturating the atmosphere with the valuable vapors that escape from it—to be lost forever in the air? Why penalize yourself by letting the lighter fractions escape as the crude comes from the well, or as the sun shines—which increases its volatility?

The crude from your well is rightfully yours, and should be kept intact, and in tanks, to allow for 100% sale to the pipe lines. You should and could secure the same high gravity as it comes from the well. There is no need to penalize yourself with vapor loss, which frequently amounts to *5 barrels per day in just an ordinary 250-barrel tank.* Let us aid you in protecting your crude!

B.S.&B. Perfection Vapor Pressure TANKS

This tank is a Watchdog of your crude! It is more than gas tight—vapor pressure. It protects your crude from loss of volume by evaporation, as well as from the escape of the volatile vapors, thus maintaining the crude at well-head gravity.

Each tank is equipped with the B.S.&B. Thief Hole Pressure Vacuum Valve which opens at 16 ounces pressure or 2 ounces vacuum, thereby protecting the tank itself—due to any possible excess of pressure or vacuum.

And the B.S.&B. service is highly delightful—delightful with speed—with care—with extreme caution—with thoroughness—with complete satisfaction. Fifty Field Stations scattered throughout the Rocky Mountain and Midcontinent Fields, with their own complete stocks ready for immediate delivery and erection by our own tank crews, and a service that continues long after the sale has been completed is to be yours.

Let us explain more in detail how the B.S.&B. PERFECTION Vapor Pressure Tanks will save your crude, and save you money. May we discuss this by correspondence, or a personal interview? Write for catalog, or a man with a plan. Address Dept. B-15.

Our Watchword QUICK SERVICE

EFFICIENT B S & B SERVICE DEPENDABLE

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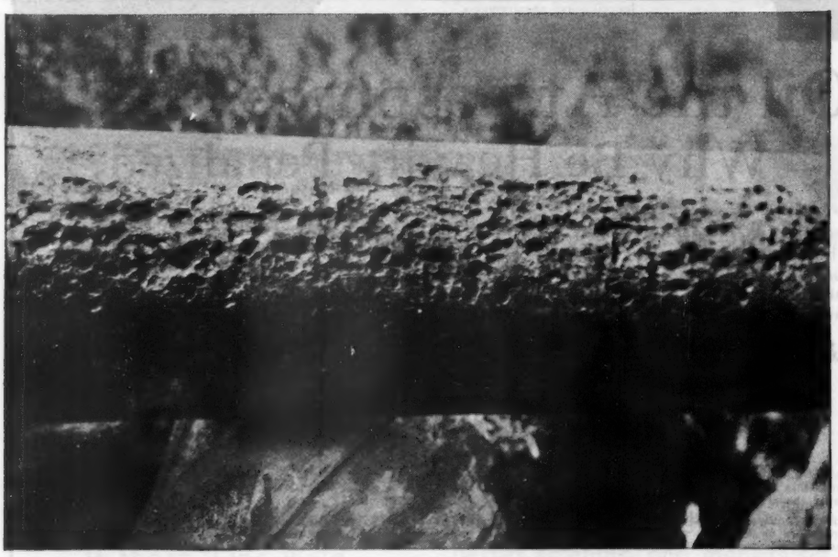
INC.
BARTLESVILLE - OKLAHOMA

Write for
FREE DIARY
Send name, address, position.
Write Dept. B-15.

Showing 250-barrel size, cut open to show how each tank is built like a skyscraper.

"Service on the Dot—" —Service on the Spot"

Wrap them in ARMOR



Bare metal is helpless against corrosion. When you put your pipe lines underground, put them out of your mind, too. Armor them.

that time can't touch!

PROTECT your pipe lines against corrosion. Safeguard them against moisture and chemical-bearing soils. Wrap them in the armor that time can't touch... *Carey Asbestos Pipe Line Felt.* Will not rot, will not decay, can never shatter off. Economical. Easily applied, hot or cold, as fast as a mile per day per gang.

Play safe!

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ASBESTOS PIPE LINE FELT

View of one of the Page & Hill Butt-Treating Plants

P&H

"P & H" Poles *are Long Life Poles*

DEPENDABILITY and long life in "P & H" Poles are assured by the painstaking care used in every operation of production, grading, handling, Butt-Treating and inspection.

The best investment for permanent lines is the "P & H PROCESS" Pole, developed and produced by Page & Hill Co. It is guaranteed, in writing, to show a full sapwood penetration to a depth of one-half inch throughout the groundline area.

All pole requirements can be supplied quickly from our complete stocks of Cedar Poles.

Fast Shipping Service is an outstanding achievement of the Page & Hill organization.

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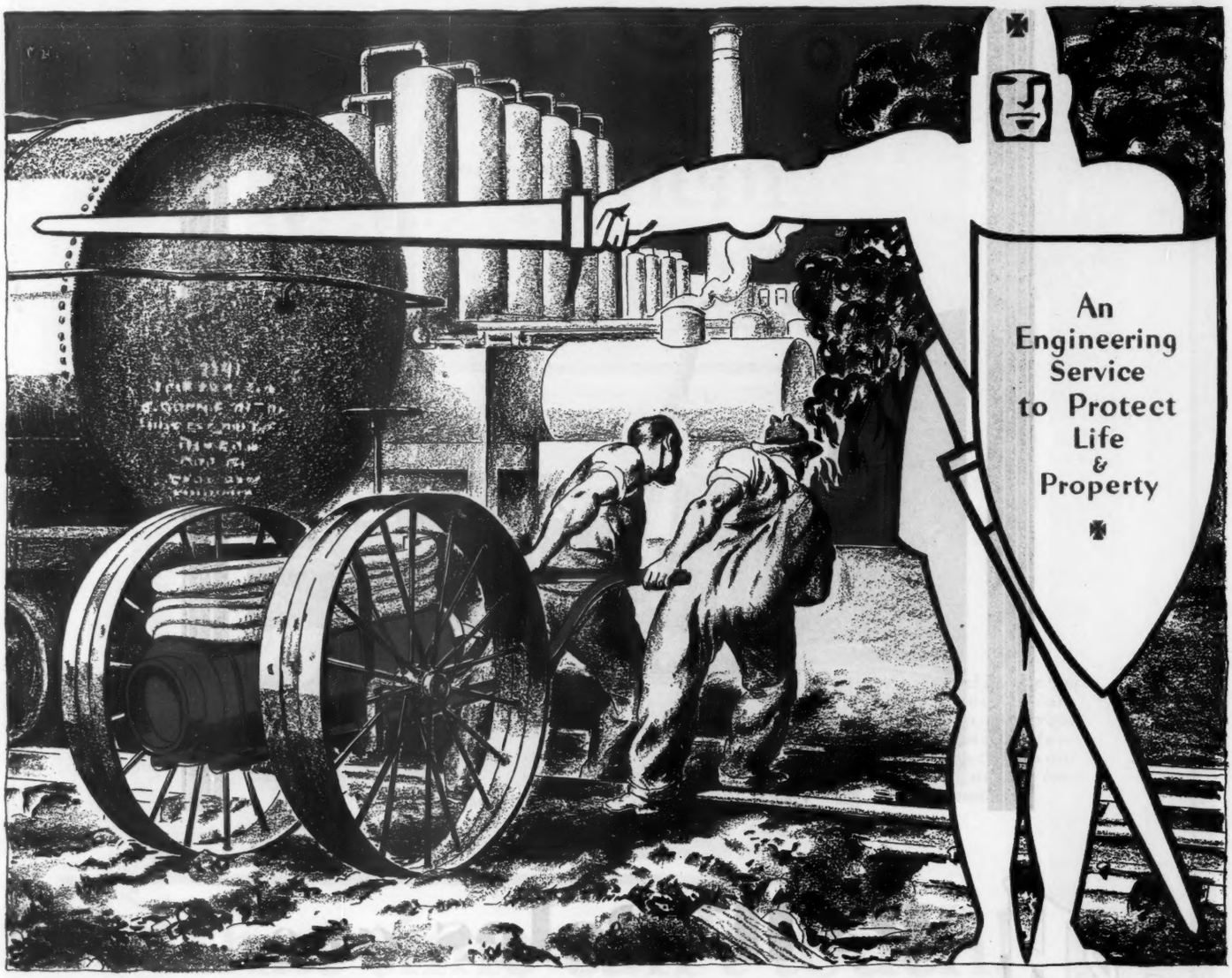
FIRE — AN INCIDENT OR A DISASTER ?



Introducing The WIDEWAY . . . the FOAMITE engine that gets there!

Try to stop the FOAMITE Wideway! Try it in mud or gumbo or sand . . . on rough fields, railroad tracks, or curbings! With wide 8-inch wheels, the Wideway engine gets there every time!

Rugged construction to stand the hard knocks, and wide roller-bearing wheels, that allow easy pulling over either rough or smooth going, make the Wideway ideal for use in the oil industry.

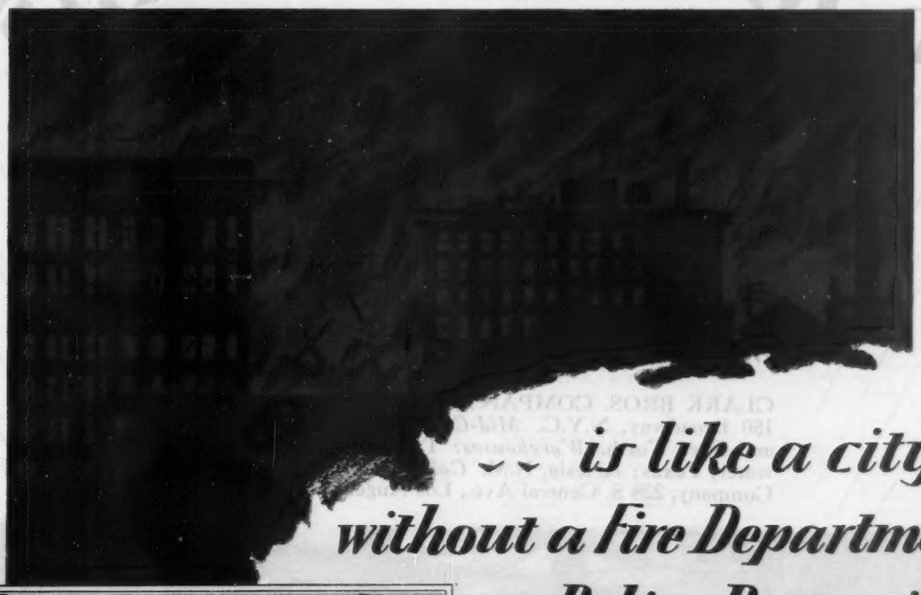
The Wideway is a new unit of FOAMITE Protection—the protection universally adopted by the oil industry today. The Wideway discharges about 300 gallons of fire-killing *Firefoam* . . . at an effective range of 50 to 60 feet. It's a worthy brother to FOAMITE extinguishers, generators, and the famous FOAMITE two-solution system.

Let us demonstrate the Wideway. You name the day. A representative is located near you—and near every principal oil producing and refining center. American-LaFrance and Foamite Corporation, Dept. F36, Elmira, New York.

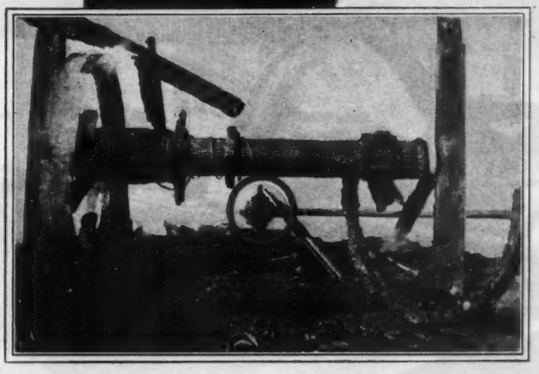
COOPERATING WITH INDUSTRY TO SAFEGUARD BUSINESS AGAINST FIRE
LA FRANCE AND FOAMITE ENGINEERING SERVICE SYMBOLIZED BY THE CRUSADER

LA FRANCE AND FOAMITE PROTECTION
AN ENGINEERING SERVICE
AGAINST FIRE

A Drilling Well Without a CONTROL CASING HEAD

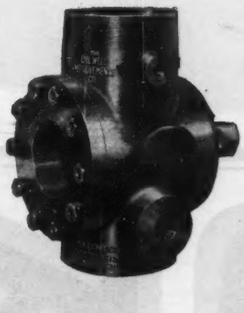


... is like a city without a Fire Department or Police Protection



The rig was lost but the well was saved by an O. W. I. Control Casing Head—a safety factor against fire.

In a city without a fire department or police protection lives and property would be subject to disaster at any time. In a drilling well without the O. W. I. Control Casing Head, the lives of the drilling crew, the property above ground and the well itself would be threatened by any sudden oil flow or gas pressure encountered. But with a Control Casing Head at the head of the well, the largest flow of oil or the greatest gas pressure may be shut in instantly—or diverted in any manner desired. It is unsound practice to drill *any* well without a Control Casing Head to give the driller instant and complete mastery over any pressure situation that might develop.



TYPE "X" CONTROL CASING HEAD — for lubricating tools in and out of hole while drilling heavy oil flow or gas pressure.

We also manufacture Roller Oil Savers, Casing Heads, Apex Polished Rod Stuffing Boxes, and high pressure fittings for oil and gas wells and pipe lines.

THE OIL WELL IMPROVEMENTS CO.
Tulsa, Okla.

Add "Super 2" Fuel Savings and Operating Economy to Your Net Profits~

The CLARK "Super 2-cycle" design (with the patented CLARK Fuel Injector) so increases efficiency that these machines operate on 1/3 *less fuel* than ordinary 2-cycle engines and at least equal in fuel economy the best 4-cycle engines.

Simple, rugged, 2-cycle construction, perfected through a half century of engine building, insures the very minimum of operating and maintenance expense.

Made in 95 H.P. Single and 190 Twin types—also in 200 H.P. Single *Double Acting* and 400 H.P. Twin *Double Acting* types.

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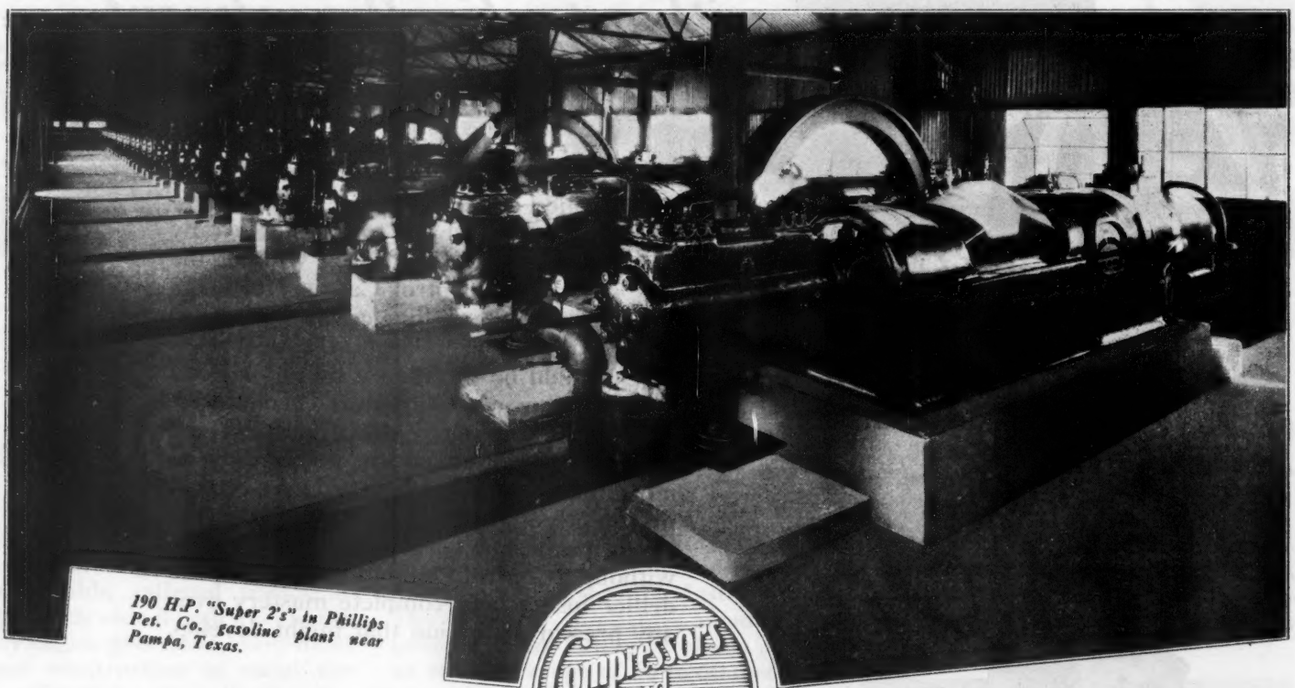

190 H.P. "Super 2's" in Phillips Pet. Co. gasoline plant near Pampa, Texas.

Compressors and Gas Engines

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Potential Figures Often Misleading

Highest daily average estimated total production in 1928, week ended Dec. 29, 2,585,844 bbls. Lowest in 1928, May 19, 2,338,241 bbls.

Operators Confident Production Will Be Held to Market Requirements. Believe Refiners Will Curtail Runs to Stills

By Andrew M. Rowley

Highest daily average estimated light oil production in 1928, week ended Dec. 29, 2,158,134 bbls. Lowest in 1928, Mar. 3, 1,027,713 bbls.

Despite material increases in potential production of various flush fields operators are optimistic regarding the situation and are confident the output of crude oil will be held to market requirements. Potential production figures may be a misleading factor in a number of pools due to other conditions which are of far more importance to an economic development. Danger of water encroachment should wells be permitted to flow at capacity makes curtailment a necessity to procuring the greatest possible ultimate recovery of crude in several areas. If such fields were permitted to produce their potential it is believed the life of the pools would be extremely short.

There is a growing feeling that the refining industry will co-operate in the conservation movement by curtailing runs to stills and help prevent the piling up of excess stocks of gasoline. The producing end of the business will be able to hold crude oil output down to requirements of refiners even should the demand from refiners be less than at present, due to any program of decreased runs to stills the refiners may inaugurate.

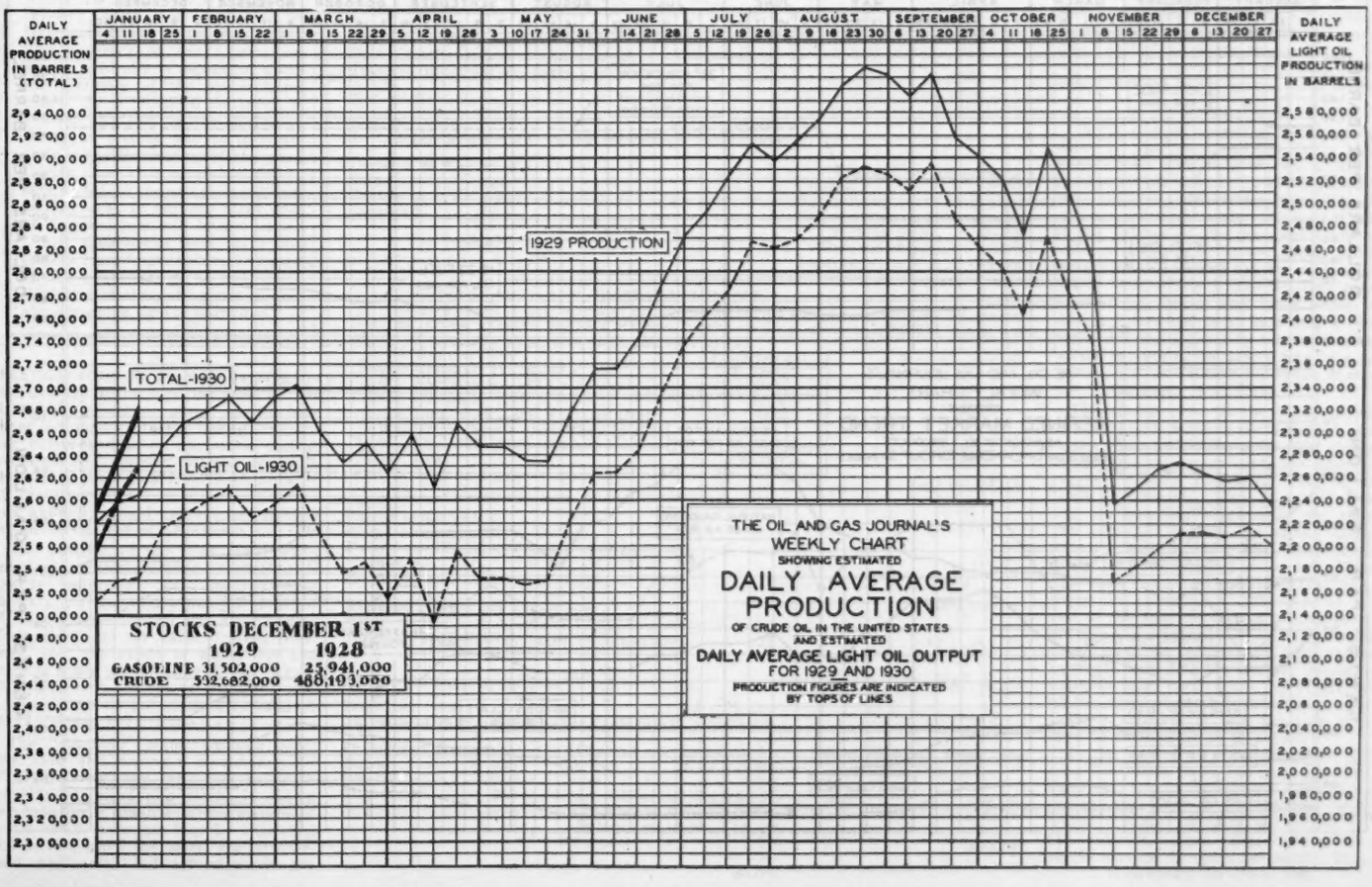
There is little or no basis for talk at this time of readjustment in the crude oil price schedule. Approximately 5,000,000 barrels of crude was withdrawn from storage in November and available figures indicate about the same quantity withdrawn during December. Recent increases in production are due largely to the working out of conservation programs in different fields and may be expected to be followed with decreases in output. The large increase registered last week in the Seminole area in Oklahoma was the result of opening wells to obtain gauges for proration purposes and the working out of the conservation agreement in that area. In all probability there will be a substantial reduction in production for Oklahoma during the current week.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended January 11, and a comparison with the previous week follows:

	Jan. 11		Jan. 4	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahom City	94,645	.....	99,270	.....
St. Louis-Pearson	49,235	.....	48,440	.....
Seminole	259,760	.....	229,210	.....
Northern Miscellaneous	246,255	.....	241,285	.....
Southern Fields	56,870	.....	57,080	.....
Total Oklahoma	706,765	.....	675,285	.....
West Texas—				
Hendricks	91,117	.....	90,101	.....
Yates	141,836	.....	144,714	.....
Remainder	109,983	.....	109,004	.....
Total West Texas	342,936	.....	343,819	.....
North Louisiana	33,680	5,150	33,110	5,190
Arkansas	18,515	42,290	18,335	42,050
North Central Texas	142,236	.....	140,168	.....
Texas Panhandle	94,129	.....	100,831	.....
East Central Texas	21.618	.....	23,499	.....
Kansas	112,215	.....	113,940	.....
Total Mid-Continent Area	1,472,094	47,440	1,448,987	47,240
Gulf Coast	.....	188,335	.....	177,416
Southwest Texas	.....	62,522	.....	56,617
Eastern	141,000	.....	140,000	.....
Rocky Mountain Area	73,481	.....	74,861	.....
California—				
Santa Fe Springs	165,000	.....	169,000	.....
Long Beach	104,500	.....	104,500	.....
Huntington Beach	41,000	.....	41,000	.....
Elwood	28,000	.....	27,000	.....
Ventura Avenue	52,500	.....	51,000	.....
Seal Beach	28,000	.....	28,500	.....
Remainder of State	167,000	114,000	161,500	114,000
Total California	586,000	114,000	582,500	114,000
Total United States	2,272,575	412,297	2,246,348	395,273
Grand Total	2 684,872		2,641,621	

Total Increase, 43,251 Bbls.; Light Oil Increase, 26,227 Bbls.



Firmer Tone in Domestic Gasoline

Oklahoma Less Disposed to Give Price Concessions. Natural Gasolines Decline to Low Levels. Fuel Oils Strong

By C. O. Willson

For the first time in several weeks there was a slightly firmer tone in the domestic grades of refinery gasoline on Monday and Tuesday. Many market observers now believe that prices are definitely pegged at present levels barring a substantial reduction in gasoline tank-wagon and service station prices in the Middle West or a reduction in crude oil prices. As neither development appears probable at this time it is possible that additional refiners will stop quoting low priced material in a market which is in the midst of a seasonal dullness.

Somewhat the same situation obtains in the natural gasoline market. Prices on all grades continued to slump rapidly the latter part of last week, grade AA being available at 5 cents with similar reductions in the remaining grades. On Monday and Tuesday some new buying came into the market and prices were steady. Part of the buying was for export or coastwise movement and some of the manufacturers were certain that the volume of this business would increase before the end of the week.

With many refiners paying 4 cents a gallon or more for crude oil delivered at their refineries it appears to be reasonably safe to predict that the B, BB and C grades cannot go much lower based on general conditions in both the crude oil and refined markets. Manufacturers who are also producers of crude oil have pointed out that the product is worth at least 3½ cents a gallon when run with their crude oil and this action will no doubt develop if the demand fails to improve at the price levels now in effect.

Other Products

There were no important changes in prices for other products although the spot market generally is dull. The sale of Refugio crude oil of Southwest Texas fuel oil in the Middle West is thought by some to have weakened the demand for the regular grades of high gravity fuel oil. This crude oil of 23 to 24 A. P. I. gravity is said to have all the specifications of the high gravity residuum fuel oils with the exception of the gravity. Considerable quantities of this crude oil are being sold in the Middle West at prices which are from 20 to 30 cents a barrel under the price prevailing for 28-30 fuel oil basis Group 3. So far as Oklahoma is concerned the market does not appear to be suffering from this crude oil competition. Prices are firm and some grades are not obtainable for delivery over the remainder of January.

The quantity of fuel oil available on the open market from Oklahoma refiners is getting less and less. Despite the advance in fuel oil prices, the cracking operation at refineries is still more attractive than the skimming operation and operators are pursuing a policy of securing the maximum throughout in the former. It is probable there will be some additional curtailment of refinery crude oil runs over the 60 days if the present relationship between posted crude oil prices and gasoline tank car prices continues. It is unlikely however that there will be any reduction in cracking operations so the demand for fuel oil and gas oil as charging stock will continue steady.

The few refiners who operate skimming plants without cracking equipment are the hardest hit in the present market and they have been the principal source of fuel oil and gas oil supplies for spot buyers in the past. These sources of supply are well taken care of with orders at the present time and no weakness in specification material, regardless of gravity, has been reported.

Bright Stock

Some of the buyers have been surprised at the price strength shown by the bright stocks. These prices advanced last summer and early fall so that a price of 37 cents was established for the 150-160 D bright stock, the principal grade manufactured in the Mid-Continent Field. Since that time there has been a steady reduction in bright stock prices in the eastern states, the famed Penn-

(Continued on Page 141)

REFINED MARKET BAROMETER

Weather conditions were reported as a factor in the gasoline market in several refining areas during the past week. Heavy snow and low temperatures have reduced consumption and refiners serving those areas have had little spot business, shipments being confined to contract requirements. The greatest weakness in the gasoline tank car market now centers in the East where there is still considerable uncertainty regarding the probable future trend in tank wagon and service station prices. Refiners in the Middle West and Mid-Continent generally were not giving additional price concessions in their gasoline sales. Lubricating oils and wax were other weak spots in the market. Prices on these products again declined in Pennsylvania and the East Coast with minor changes in other areas. Too much kerosene continues to be offered to enable that product to recover from its recent slump at many points. Fuel oil and gas oil prices based on scattered reports are either steady or strong. Natural gasoline prices were lower although prices appeared to be at bottom the first of the week. Furnace oils are in demand with no important changes in prices.

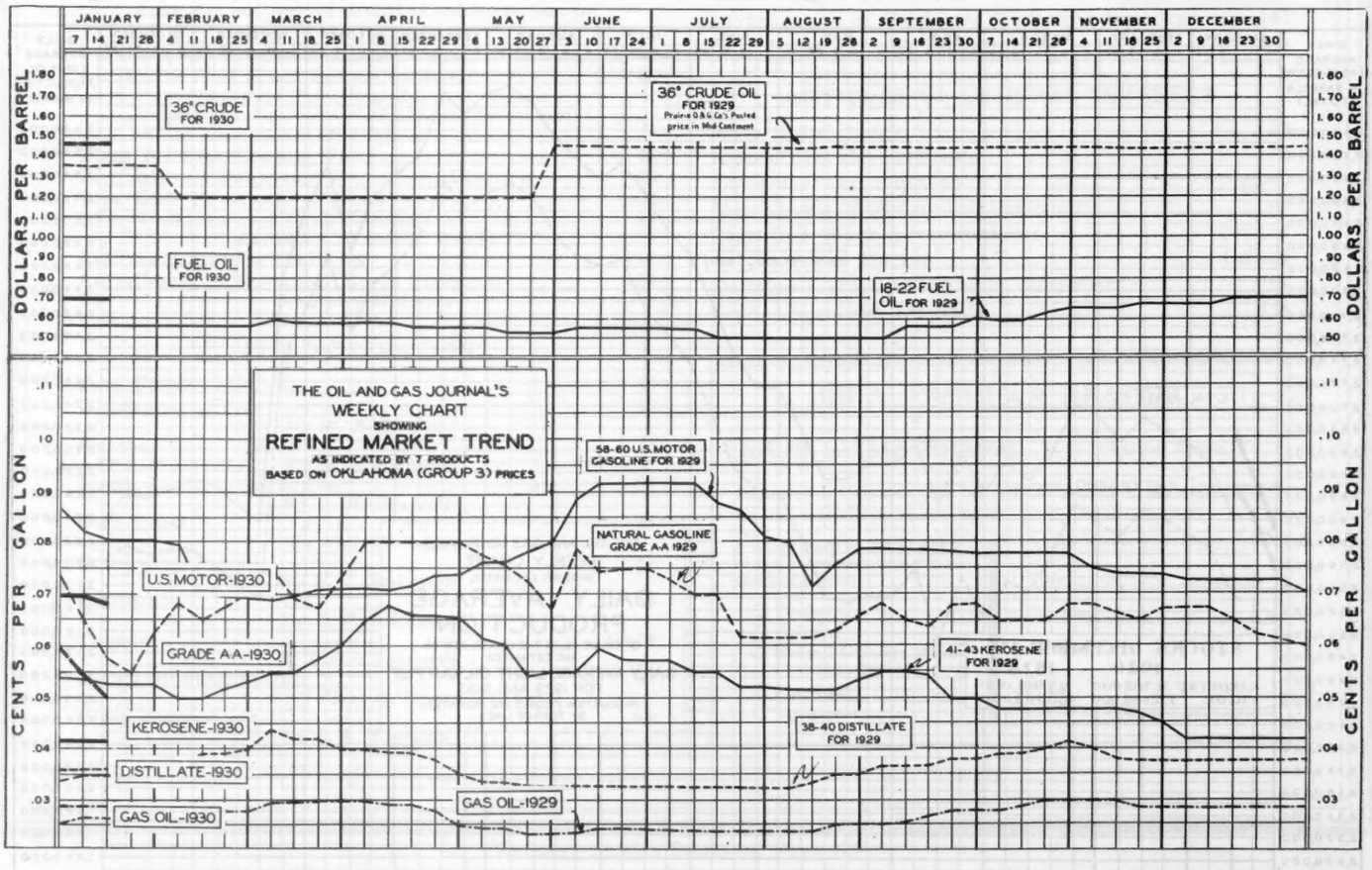
East Coast—Refinery gasoline market weak with large offerings from California. Lower prices in several grades of bright stocks and steam refined stocks. Wax prices lower. Good demand for fuel oil with no change in prices.

Mid-Continent—Natural gasoline prices generally lower. Few changes in refinery gasoline with firmer undertone in domestic sales. Kerosene prices steady. Fuel oil strong. Fair demand for gas oil and distillate.

Pennsylvania—Gasoline and kerosene prices unchanged although demand not active. Prices again lowered on several grades of steam refined stock and bright stock.

Gulf Coast—Pale and red neutral prices steady with fair demand. Gasoline weak.

Chicago—Light movement of gasoline due to weather conditions. Fuel oil and zero gas oil in demand at firm prices. Kerosene inactive. Furnace oils sluggish.



Analysis Made of Refinery Margins

Data Show That Mid-Continent Refiners Have Allowed Prices to Slump so That Present Operation Is Unprofitable

By W. T. Ziegenhain

An analysis of refinery operations under the present market structure indicates that the average skimming plant is losing considerable money, the average skimming plant balanced with cracking facilities is losing some money and the average so-called complete plant is not quite breaking even. As a basis for the analysis, actual costs of manufacture as being witnessed in efficiently operated plants were used when applicable and the investment items assumed were agreed upon by refinery engineers as typical of actual expenditures recently made in their own plants for like equipment.

The analysis further assumes that favorable operating conditions exist in every respect and the revenues pictured here might be termed "optimistic" rather than indicating the probable earnings in the average plant. In the case of the 5,000-bbl. skimming plant shown here there is a manufacturing loss of 18 cents per barrel and after the sales, traffic, overhead and indirect charges are paid, there is a total loss from operations of 42 cents per barrel, or at that rate, the loss annually would amount to $766,500 on an investment of $1,650,000.

The position of the same plant when balanced with cracking facilities is greatly improved. The analysis then shows a manufacturing margin of profit of 14 cents per barrel but after deductions are made for sales, traffic, overhead, etc., the profit is wiped out and there is a net loss of 16 cents per barrel. This represents a loss of $292,000 over a year's time on an assumed investment of $2,250,000.

The "complete" plant, running 5,000 bbls. daily and making a maximum yield of bright stock and lubs, together with cracking all remaining stock, is shown as producing a manufacturing margin of profit of 36 cents per barrel. But even this is lost when the sales, traffic overhead and other indirect expenses are paid. In this case the assumed plant investment is $2,950,000.

These results are necessarily an estimate at best, but they are believed to be typical of conditions and show in a relative measure the present earnings of the three types of plants, the skimming plant, skimming and cracking and also the complete plant. Every detail which enters into the analysis and every assumption made was based on "average" conditions as far as it was possible to judge them. Group 3 spot prices were taken as the basis for the earnings and it was assumed the plant was located in the Mid-Continent area, where the delivery cost for the crude was 15 cents per barrel. This latter charge may appear low in many cases, since it is intended to not only include the pipe line tariff, but also the cost of gathering and storing the crude and any sales or brokerage charge. Charges of from 30 to 40 cents are being paid by some refiners for the pipe line delivery of Mid-Continent crudes to their Mid-Continent plants. In other cases, however, many refiners are near the producing fields and hold contracts for the pipe line delivery of crude for as low as 6 cents. The 15-cent charge assumed here is thought to be representative. This is particularly applicable since it has been assumed that Seminole crude is run in each of the three cases.

PROFIT OR LOSS IN REFINING

As one phase of the efforts being made to stabilize market conditions in all branches of the oil industry considerable attention is being paid to refinery operating costs and margins. It is often stated that prices on refined products, particularly gasoline, are allowed to decline to ruinous levels because some refiners do not have an accurate basis for determining operating costs. Unfortunately, the profits of all operators suffer in such a situation and a uniform accounting system is being advocated as the solution to this problem.

In the accompanying article the writer has attempted to summarize refinery costs and earnings in Oklahoma based on present prices. The accuracy of the conclusions drawn naturally is dependent upon the accuracy of the assumptions made. It is intended to cover a general situation in the Mid-Continent at present and to gain an accurate understanding of any particular case, it is of course necessary to substitute actual conditions as they exist in any one plant and no two analyses will be the same.

Any suggestions from plant operators regarding additional phases of this problem will be welcomed. Criticism of the data given in the accompanying article is invited.

REALIZATION NO. 1

Refinery revenue per barrel of crude run based on skimming 39 gravity Seminole crude in a 5,000-bbl. modern topping unit and selling all products at present tank car spot prices.

Yield from crude—	Price per gal.	Revenue per bbl.
39.0% Gasoline (U. S. M.)	$.06½	$1.06
5.0% Kerosene (41-42 Gr.)	.04¼	.09
3.0% Distillate (170 fl.)	.03¾	.05
20.0% Gas Oil (32-33 Gr.)	.03	.25
30.0% Fuel Oil (18 Gr.)	.75 bbl.	.23
3.0% Loss		
100.0%		$1.68

Posted crude price	$1.60	
Pipe line charge	.15	
Bare maunfacturing expense and maintenance	.11	
Plant expense		$1.86
Refinery margin per barrel skimmed		$ .18 (loss)
Sales, traffic and overhead expense	$.10	
Interest, taxes, depreciation and insurance	.14	
	.24	
Net profit from operations		$ .42 (loss)
Loss per year	$ 766,500	
Investment in plant (including tank cars)	$1,650,000	

REALIZATION NO. 2

Refinery revenue per barrel of crude run based on skimming and cracking 39 gravity Seminole crude in a modern 5,000-bbl. balanced plant and selling all products at present tank car spot prices.

Yield from crude—	Price per gal.	Revenue per bbl.
72.0% Gasoline (U. S. M.)	$ .06½	$1.97
5.0% Kerosene (41-42 Gr.)	.04¼	.09
8.0% Distillate (170° fl.)	.03¾	.13
6.0% Coke	2.00 Ton	.02
9.0% Loss and gas		
100.0%		$2.21

Posted crude price	$1.60	
Pipe line charge	.15	
Bare manufacturing expense and maintenance	.31	
Plant expense		$2.06
Refinery margin per barrel run		.15
Sales, traffic and overhead expense	$ .10	
Interest, depreciation, taxes and insurance	.21	
	.31	
Net profit from operations		$ .16 (loss)
Loss per year	$ 292,000	
Investment in plant (including tank cars)	$2,250,000	

Division of Expenses		Charged on Investment	
Sales	.035	Interest	5.0%
Traffic	.010	Taxes	1.0%
Overhead	.055	Depreciation and obsolescence	
		Cracking plant	20.0%
		Balance of plant	8.0%
		Insurance	1.0%
	$.10		

REALIZATION NO. 3

Refinery revenue per barrel of crude run based on completely refining 39 gravity Seminole crude to make bright stock and lubricants in a modern 5,000-bbl. plant and selling all products at present tank car spot prices.

Yield from crude—	Price per gal.	Revenue per bbl.
60.0% Gasoline (U. S. M.)	$ .06½	$1.64
5.0% Kerosene (41-42 Gr.)	.04¼	.09
6.0% Distillate (170 fl.)	.03¾	.09
1.5% Lub Stock (280 Visc. @ 100)	.16¾	.11
7.0% Bright Stock (150 Visc. @ 210)	.37	1.09
10.0% Fuel Oil (60% sludge)	.60 bbl.	.06
4.0% Coke	2.00 Ton	.01
6.5% Loss and gas		
100.0%		$3.09

Posted crude price	$1.60	
Pipe line charge	.15	
Bare manufacturing expense and maintenance	.98	
Plant expense		$2.73
Refinery margin per barrel run		$ .36
Sales, traffic and overhead expense	$ .10	
Interest, depreciation, taxes and insurance	.27	
	.37	
Net profit from operations		$ .01 (loss)
Loss per year	$ 18,250	
Investment in plant (including tank cars)	$2,950,000	

Division of Expenses		Charges on Investment		Added Monthly Plant Expenses Due to:	
Sales	$ .035	Interest	5.0%	Making bright stock	$90,700
Traffic	.010	Taxes	1.0%	Making lubs	$ 8,500
Overhead	.055	Depreciation and obsolescence			$99,200
	$ .10	Cracking equipment	20.0%		
		Balance of plant	8.0%		
		Insurance	1.0%		
			35.0%		

Seminole Crude Used

Seminole crude is being produced in such a large volume it probably is the most representative Mid-Continent crude to lend itself to such an analysis. It is also possible, however, that Seminole crude shows a higher revenue than other Mid-Continent crudes because of its high straightrun gasoline content, considering its gravity and corresponding posted price. In this case, the analysis may be said to produce "optimistic" results rather than typical, but, as was stated previously, it was the intention to portray as favorable a picture as reasonable in all cases and then, if a loss in earnings resulted, it seems reasonable to believe that the great majority of refinery operations are being carried on at a loss.

Skimming Plant

In the case of operating the skimming plant it was assumed that 5,000 bbls. were topped daily in a modern unit. A yield of 39 per cent U. S. Motor gasoline was assumed obtainable from the 39 gravity Seminole crude. Normal yields of the balance of the standard products were assumed and present spot prices were used in working out the realization shown here as No. 1. The 6½-cent gasoline price is below that being asked by some refiners and is at least half a cent above that being asked by others. Similarly, the balance of the prices may be a bit "optimistic" but within the range of general quotations.

The posted price of the crude in the field is $1.60, making the delivered cost to the plant $1.75. The only other charge included at this point is the manufacturing or refinery processing cost of 11 cents per barrel. This is intended to pay all operating expenses at the plant but does not provide for sales, traffic, overhead, depreciation, obsolescence, taxes, insurance and research. These "invisible" expenses are often the chief factor in providing a difference at the end of the year between a profitable operation and a loss. It is an easy matter to go from day to day and from month to month balancing the refinery operating expenses with the revenue but at the end of the year, when the full weight of the indirect expenses is felt, the true earnings do not appear so favorable.

In the case of the skimming plant running 5,000 bbls. daily and having its own sales and traffic departments, it was assumed the cost of maintaining these would average 10 cents per barrel and the interest, taxes, depreciation, etc., would average 14 cents per barrel. These

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Old Methods Meet Modern Needs

Production Practice Used in Older Pools Again Has Its Application to Present Requirements for Unit Control Conditions

By L. G. E. Bignell
Petroleum Engineering Editor

The petroleum industry seems to have accepted the theory of unit controlled production as offering a solution for many of its problems of overproduction, and the recent meeting of the American Petroleum Institute held in Chicago was devoted to the study of the many phases of this work that concern the executive, legal department and engineer.

Many things will have their effect in the application of this principle to the various pools, but as it is generally agreed that the pool is the unit that has been established by nature, the logical thing to do is to treat this natural resource in such a way that the best engineering practice can be applied to the extraction of the gas and oil from it.

There are many details learned in the older fields that have their direct application to unit control problems, and one of the most important of them is, perhaps, the gas-oil ratio used in producing the fluid, for nature has been at times most prolific in furnishing gas with the oil, while in other areas it is found that the relation of gas to oil is comparatively small.

This gas that is entrapped with the oil in the reservoir underground is the natural force that has aided in the accumulation of the oil in these pools and therefore should be permitted to escape to the surface only in such quantities as are necessary to carry with it the greatest amount of oil.

This gas being compressed to many atmospheres and confined with the oil underground has stored energy that can be utilized in an effective way to move the oil through the sand and up the hole, or it may be dissipated in such a way that only part of the oil will be recovered by the natural energy of the gas.

Detrimental Effect

Not only does this waste of gas mean actual lost energy but the cooling effect of gas that is rapidly reducing its pressure has a very detrimental effect on the oil itself and this chilling will cause many of the heavier hydrocarbons, fractions and waxes to precipitate out of the fluid and remain in the sands.

This reaction will in time fill up the pore spaces in the reservoir body and cut down the amount of oil produced and necessitate the use of more gas energy to move the remaining oil through its formation.

It has been observed in some of the older fields in the eastern part of this country that this paraffin and other sediment has precipitated for some distance back from the face of the sand and this condition has been checked by a careful study of some of the older methods of cleaning wells practiced in the fields in southeastern Ohio 15 or 20 years ago.

It has been found that a well that had an initial production of about 100 bbls. of oil per day had gradually decreased its production rate until it was making only about 1 bbl. daily at the end of the first year of its life.

It was decided to steam the well and melt the paraffin as it was thought such a treatment would restore production. To accomplish this steaming a 2-inch string of tubing was run into the well to be used for pumping the oil out of the well just as rapidly as possible, so that the fluid head on the oil sand would be maintained just as low as possible at all times during the heating operation.

This was done for two reasons, first, to give the steam a chance to come in direct contact with just as much of the oil sand face as possible, and second, to keep the fluid from building up any appreciable pressure on the sand face by accumulating heads in the hole.

Steaming Process

The steam was carried to the bottom of the hole by a string of 1-inch pipe that was lowered to the bottom alongside of the 2-inch string of tubing and the lower part of the 1-inch pipe string was perforated with a number of holes drilled at random so that the steam would be distributed very generally in the well.

The steam was taken from a boiler at 220 pounds pressure, or at a temperature of approximately 395° Fahrenheit and passed through a reheating system made of coils of pipe heated by open gas flame until the pipe was red hot, or by passing the hot steam through another old boiler in which there was no water, but which was kept very hot by the use of a gas burner in the fire box.

This superheated steam when released at the bottom of the well melted the paraffin from the face of the sands very rapidly and the steaming process was continued for only about 24 hours at a time, and it was noted that the flow of fluid from the hole increased appreciably during this interval.

At first it was decided to run this fluid as it was pumped from the well directly into the lease storage tanks for it all had the characteristic green color of that type of oil and nothing was noted to indicate that it was in reality only melted paraffin. There was enough heat stored in the fluid mass as it reached the surface to keep it liquid until run into the gathering lines where it very promptly congealed and completely plugged the lines. It was necessary to dig up several hundred feet of line and remove the solidified wax by punching it out with sucker rods and by other means.

After this experience it was the practice to run the first lot of fluid pumped from a well being steamed out upon the ground where it would form a sheet of wax that could be rolled up like a piece of sole leather and had about that thickness.

Cause of Original Trouble

After the steaming process was completed it was found that this well again produced at the rate of approximately 100 bbls. per day, and this seems to indicate quite clearly that the original trouble had been due primarily to the precipitation of wax and heavy hydrocarbons in the pore spaces of the sand, until those minute openings were completely closed.

This evidence would seem to show that the gas in passing through the oil and sand had removed heat from both and this reduction in temperature had been long enough in time to gradually seal the pore spaces in the sand and as this sealing action went on the small openings were slowly beipg made of smaller cross section, so that the gas was being back-pressured

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1930 and 1920 in Petroleum Refining

Comparisons Show That 10-Year Period Has Brought Important Changes in Practically All Phases of Operation

By F. T. Gardner
Professor of Chemistry, University of Tulsa

The opening of a new decade seems an excellent time for the refining industry to pause and take inventory. In no 10-year period in the history of the American petroleum industry has the science of refining made such rapid strides as in the years 1920-1930. Refining of petroleum as practiced in 1920 in the most up-to-date refineries in the country is today very old fashioned indeed. It is the purpose of this paper to compare the present best practice in the various branches of the refining industry with the accepted best method of operation in 1920. It is believed that in this manner the many alterations and improvements which have been instituted during this period may be best summarized for the reader.

For purposes of this comparison all operations involved in refining have been arbitrarily classified into the following divisions: distilling, treating, wax separation, and compounding. It is recognized that this classification is necessarily a loose and general one, but it is believed well suited to this discussion.

The general broad topic of distillation will be further subdivided into two topics —fractionation and cracking. All distillation operations fall within the general topic of fractionation, strictly speaking. Only those distillation procedures specifically designed to "make little ones out of big ones" will here be designated as cracking.

Fractionation as here defined includes the original separation of crude oil into fractions plus any redistilling operations incidental to the processing of the various fractions. Marked changes have been made in the past decade in the manner of accomplishing these operations. In 1920 the type of still generally employed in this work was the horizontal shell still. It was sometimes employed in batteries in which continuous fractionation was achieved, but more often the stills were run as discontinued batch units. If operated continuously some effort was made to effect heat recovery by means of more or less efficient heat exchangers. Some refiners employed fractionating columns. The columns were frequently inefficiently operated, due to incomplete knowledge of the theory of fractionation on the part of the operators who often regarded the columns as little more than an unnecessary frill.

The horizontal stills were fired with only one object in view—to "push her over on schedule." That a proper mixture of air and fuel would accomplish this result at a minimum of cost was a fact taken into account by relatively few refiners.

Modern Pipe Still

So much for 1920. During the interim between '20 and '30 refiners took a few lessons from the boks of the men learned in the sciences of heat transfer and heat economy. The result is the fractionating still—1930 style.

The new style in distillation is a pipe still. Instead of a liquid velocity of one or two feet per minute, which was the sedate rate of travel maintained in the shell still, the oil in a pipe still zooms along at about 100 feet per minute. The result is a greatly increased rate of heat transfer per unit heating area. The pipe still is operated continuously, disgorging fractions at a prodigious rate. Highly efficient fractionating columns, intelligently operated, make possible production of closely cut fractions, thus obviating much of the re-running which was a necessary evil resulting from the operation of the stills of yesterday.

Heat economy is so thoroughly carried on that overall heat recoveries of upwards of 80 per cent are regarded merely as average operating practice. One old time stillman, on being shown over a new pipe still installation fairly bristling with heat exchanges made the following prophesy: "If you draw your fires she'll coast for a week."

Today few are the still settings from which samples of the flue gas are not taken for analysis at regular intervals. Where the fireman, 1920 style merely "pushed her over" the present day fireman must not only maintain operating schedule, but must be prepared to do battle with a combustion engineer if analysis of the gas from his still settings discloses that he is warming not only his still but plenty of excess unwanted air.

Early Cracking Still

The cracking still of 10 years ago was invariably a liquid phase affair. After a discouraging trial, vapor phase cracking was thought to be forever relegated to the realm of impracticality. The liquid phase still was in many cases little more than a kettle with a pop valve set in a fire box. Considerable attention was being paid to the fact that if less oil was present in the portion of the cracking system which passed through the fire box, the explosion resulting on failure of the still would be lessened in degree. Also it was recognized that increase of the liquid velocity along the surfaces across which heat was being transferred would tend to reduce the amount of carbon deposited on the heating surfaces, which ultimately caused a shutdown due to local overheating, of if the operator was tardy in shutting down, resulted in distribution of the still about the contiguous landscape.

Thirty-six hours on stream was considered very satisfactory operation for the 1920 cracking still. Replacement of still bottoms or tubes after a few months' operation was annoying, but the refiner was forced to grin and bear it. Since cracking was primarily a batch operation, it was natural that equipment was entirely devoid of heat exchange apparatus. The percentage of down time involved in this batch operation was staggering, what with cleaning every other day, and rebuilding the still frequently.

Some attention had been paid to the possibilities of cracking catalytically at such temperatures that the cracking process could be operated at atmospheric pressure, but this work was still in the experimental stage.

Antiknock Fuel

During the years between 1920 and 1930 the refiner instituted many engineering advances in his cracking equipment. Further, a new fly appeared in his already well populated ointment. The automotive industry commenced to clamor for antidetonating fuel, and on the heels

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Mr. Meals Decided to Forego "M. D."

He Observed that Although the Doctors of His Day Did a Lot of Good, Most of Them Died Poor, so He Got Into Natural Gas

By Thomas F. Smiley

Long before he had decided what he would be when he grew up Samuel W. Meals, president of the Carnegie Natural Gas Co., had settled one thing, to-wit, he would not be a country doctor. His father and brother were doctors and young Sam knew what he might expect if he followed in the paternal footsteps, namely, sleep-broken nights; long rides over hard roads in sizzling sun and biting cold; bones to be set and limbs to be amputated, sometimes by the flickering light of kerosene lamps with rude substitutes for sanitary conveniences; maternity cases that set calendars, clocks and biological calculations at naught; hopeless sickbeds, heartening returns to health, big rewards in point of human suffering alleviated, no rewards at all otherwise.

It was that last item that persistently projected itself upon Sam's consciousness whenever he got to wondering how his name would look on a brass doorplate with "M. D." after it and office hours underneath.

Sam used to gaze at that familiar picture, "The Physician," which shows a doctor of the mid-Victorian period with a benign countenance half hidden behind voluminous whiskers, sitting sadly thoughtful at the bedside of a dying child. The picture embodied the idea of wholesouled service, of yearning to help fellow beings without the faintest taint of selfish or mercenary motive. The same picture hangs today in medical offices. Its psychological effect always has been recognized.

Didn't Care to Die Poor

In Sam's boyhood the picture was a faithful presentation of the doctor whom all knew—a man who gave unreservedly of his time and skill to banish pain and ill health and who died poor. That life formula was quite satisfactory to Sam except in one particular. He didn't care to die poor. The doctor's place in the general scheme of things has changed since then. The worm has turned. But Sam concluded he had no desire to be that kind of worm, especially before it turned, so he got into the natural gas business. The natural gas business was the gainer thereby.

Mr. Meals was born in Callensburg, Clarion County, Pennsylvania, in 1869. When he was 15 years old his father, Dr. Samuel D. Meals, died leaving an untarnished name, an assortment of uncollected (likewise uncollectible) accounts and no money. There were eight children—six girls and two boys—in the family, thus left to fight their way without even the uncertain income of a rural physician to help them further.

After attending the district school Sam went to the Callensburg Academy and the Clarion State Normal School. While he was at the academy that institution had a good janitor. Sam was it. He demonstrated he could do plain and fancy sweeping or trim an oil lamp with the same facility he displayed in handling a Latin verb or an obstreperous problem in algebra. The job paid his tuition. Then six months' work in a store provided exactly the amount of money needed to pay tuition and board for his first year at the normal school.

Well, a Fellow's Got to Have Fun

Of course Sam had to have something for the miscellaneous expenses that must be met by any student who wants to maintain his rightful place in the social, literary and athletic life of the school, so he borrowed $3 from a sister. He didn't allow this $3 thus easily acquired to lead him into wasteful squandering, as is evidenced by the fact that at the end of the term he had some of it left. Not only that, but suppressing a thriftless impulse to ride home, Sam walked the 16 miles from Clarion to Callensburg, lugging his bag and his cornet. And walking in those days didn't mean maybe, for there was no procession of friendly motorists ready to give any clean-looking young fellow a lift.

(Say, just a thought in passing: How in the world did Sam ever manage to buy a cornet?)

Of the eight children in the Meals family six turned to teaching school as a means of contributing to the common support and at the same time completing education for themselves. Sam taught in the Dutch Hill, Pine Hollow and Easton district schools of that region. At 19, intrigued by reports from the oil field that had been opened up near Bolivar, N. Y., he went there and got a job as a roustabout at $1.50 a day.

When work became slack in the Bolivar Field Sam went to Butler County in Pennsylvania, working for about a year for the Salt and Chemical Co., which made wood alcohol for industrial uses and salt. After that he worked in the Butler oil field for Joe Hartman, Sr., an operator. In the 10 years from 1892 to 1902 Sam was in the service of the South Penn Oil Co. Starting as a roustabout in the Mannington, W. Va., Field, he became by successive stages a pumper, a lease foreman and then superintendent of the Nineveh district of the company. This district was composed of Greene County and part of Washington County in Pennsylvania, and parts of Monongalia and Wetzel Counties in West Virginia.

This Must Have Been Good

One of Sam's duties in his early work for the South Penn company was to blow water out of drips along gas lines by opening the stop of the drip and allowing the gas under high pressure to rush through. One bitterly cold winter day as Sam opened a stop with a wrench the tool was torn from his hand by the sudden stream of gas that shot from the pipe and it was flung into the creek along which the line ran. Sam turned his back to the drip and bent over to fish the wrench from the water. The powerful stream of gas caught him and sent him floundering in the creek after a series of somersaults. He was helpless without the wrench, and before he had recovered it and shut off the flow of gas his teeth were chattering, his fingers numb, his water-soaked clothing had frozen till it felt like a coat of mail and such sounds as he could utter were devoted to a sincere but ineffectual endeavor to express his feelings.

Control of high-pressure gas wells with the equipment then available often presented a problem in those days. A well of the South Penn Oil Co. on the Glover farm, in Wetzel County, had such a strong flow of gas that 37 joints of 3-inch 10-pound tubing had to be snubbed into the hole before danger of the whole string being blown out was believed to have been overcome. As each joint was drawn down into the hole with block and tackle it was anchored with a clamp and thus held down while the next joint was screwed on. The Glover well, now owned by the Hope Natural Gas Co., is a producer today.

No Biscuits, Thanks

Here's a helpful hint for use in case Mr. Meals ever should be a guest at your table: Don't have soda biscuits on the menu. His aversion for them dates back to the days when he was one of a crew of nine men working on a gas line in Wetzel County, West Virginia. Five of the men, including Sam, were boarding in one farmhouse and the four other members of the crew boarded in another. Lunches were packed in dinner buckets for them by the farmers' wives. All rode in a wagon each morning to the point on the gas line where they were to work that day. Sam's group, being farthest from this point, started off in the wagon and picked up the four others on the way.

The first morning out Sam and his companions, all possessing healthy appetites, were curious to see what had been put in their dinner buckets, and soon after leaving their boarding house they made an inspection. Each found a piece of salt pork and five soda biscuits that had been broken apart and then put together with a layer of apple sauce between the halves. Coffee made with coffee extract completed the repast.

The four from the other farmhouse, as soon as they had boarded the wagon, were urged, "See what you've got in your bucket." Examination revealed exactly the same layout except that the apple sauce had been spread on "break-off bread" (bread made in flat slabs) instead of soda biscuits. The same unchanging bill of fare greeted the pipe liners daily. Sam, who already had acquired a distate for soda biscuits, managed to make a trade the first day with one of the men who had break-off bread; but it was not possible always to effect this sort of deal, with the result that before the gas line job was finished Sam's disrelish for soda biscuits developed into thoroughgoing abomination. It is a fact too that when he settles down at the hotel dining table he never orders salt pork.

Nice to Feel Rich Anyway

With five other men Mr. Meals in 1902 organized the Syndicate Oil & Gas Co., which opened up production in the Maxon sand near Burton, W. Va. Later the company operated in various oil and gas fields both on its own account and doing contract drilling for other operators. In the Humble Field in Texas the company, drilling on its own lease, got a well which started off at the rate of 4,000 bbls. a day, and it looked for a time as though the chief worry of Mr. Meals and his associates was to be finding hiding-places to pack away all the money they were going to make. But the production failed to stand up and then by way of adding distress to a situation already cheerless enough, a big fire destroyed the rig along with much tankage. The Texas venture cost the Syndicate Oil & Gas Co. $10,000 and its dissolution followed.

Mr. Meals now turned to the organization of which eventually he was to become the head, the Carnegie Natural Gas Co., a subsidiary of the United States Steel Corp. Norwood Johnson, then vice president and general manager of the company, had been observing the character of Mr. Meals' work and invited him

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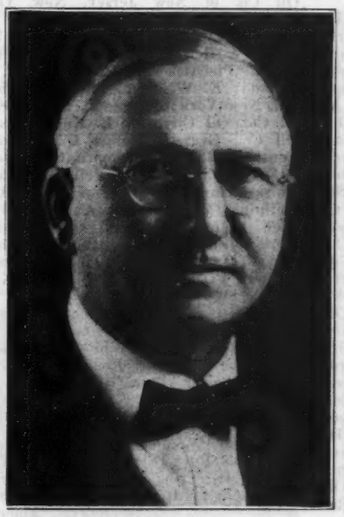
THEY USED TO FIGHT GAS, BUT NOW—

It is difficult to realize that within the memory of thousands of persons still living natural gas had not been put to either domestic or industrial use. A few rude lights in Fredonia, N. Y., presented the sole utilization of the world's most wonderful fuel.



Samuel W. Meals

Samuel W. Meals, who was to become an outstanding figure in the natural gas industry, was three years old when, in 1872, the first pipe line was built, in Venango County, Pennsylvania, to transport gas for domestic use. In the same year, according to available records, natural gas was put to industrial use for the first time when it was employed by a pottery firm in East Liverpool, Ohio. The next year, 1873, it was discovered that gasoline could be recovered from natural gas. But who wanted gasoline? A year later a steel company in Leechburg, Pa., began using natural gas in its mill.

Instead of an immediate clamor for this marvelously convenient and clean fuel its introduction was opposed bitterly because of fear of fire and explosions; because of a belief that miners, millworkers and others would be thrown out of employment, and in many cases because of plain superstition which had existed from the first. It even is recorded that when General Lafayette a half century earlier saw the lights from gas piped to the village inn in Fredonia in his honor he commented that hell must be only a short distance underneath the town.

In the 30 years from 1876 to 1906 the number of natural gas consumers grew to 884,018. Expansion was rapid after that and the number of consumers is now more than 4,000,000. Efforts, backed by legislation, are being made to conserve the gas which for years was wasted with reckless indifference.

Discuss Code on Commercial Accounts

A.P.I. Directors Leave Question to Local Committees. New Production, Refining and Marketing Divisions Are Organized

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Jan. 13.—Important changes in the internal functioning of the organization and amending the operation of the code of ethics were ordered by directors of the American Petroleum Institute, meeting here January 9. The directors approved a uniform plan for organization of three divisions within the institute, covering production, refining and marketing, and adopted a resolution authorizing the suspension of the requirements for posting prices of commercial accounts at gasoline stations in certain states, under specified competitive conditions.

The resolution providing for modification of the posting provisions of the code of ethics said: "Resolved, That it is the sentiment of this committee (the marketing committee) that no change in the definition or provisions of the code of marketing practices in regard to commercial accounts should be made by the institute at this time, because to do so would be to give national application to an effort to meet local conditions. It is, therefore, recommended that the local state code committees, with the approval of the national committee on interpretation of the code, be authorized to approve the meeting of competition and to suspend the requirements for the posting of commercial account prices at service stations in those states or areas whereof the definition of commercial accounts in rule 21 of the code is not now being observed."

Rule 21 of the marketing code defines commercial accounts as "petroleum products sold to persons, firms or corporations using commercial vehicles in transportation or delivery of passengers, merchandise, freight or express, for use only in such vehicles properly licensed by public authorities for those purposes."

The resolution, which was adopted at a special meeting of the committee on commercial accounts, and later approved by the board of directors, listed a number of states in which it is understood that provisions of the code regulating commercial accounts are in effect and being observed. These states include California, Idaho, Washington, Ohio, Oregon, Michigan, Wisconsin, Iowa, Oklahoma, Nebraska, Montana, Utah, North Dakota, Wyoming, Colorado and Nevada. Henry M. Dawes, of the Pure Oil Co., Chicago, was chairman of the meeting.

The report covering commercial accounts added that there is divergence of opinion on the question of allowing commercial accounts in any form at service stations and as to what restrictions should be imposed. Differences in local conditions and previous practices, the committee pointed out, might make any rules of universal and permanent application adopted now impractical and unfair in some sections. The committee urged further study with a view of forming a general policy consistent with public obligation, as well as private interest, and capable of general application.

Divisions Approved

The uniform plan for organization of the separate divisions of production, refining and marketing was approved by the board of directors at the annual meeting in Chicago last month. The general committees for each division will formulate supplemental rules and a standing committee will correlate them. The new divisions will provide adequate departmental organization whereby the institute activities directly covering production, refining and marketing may be participated in more generally by members. At the same time the divisions will permit independent consideration of specific problems relating to any branch and will assure better and closer co-operative relationships among members engaged in similar branches.

The personnel of the three divisions follows:

Division of Production

General Committee—William N. Davis, chairman, Phillips Petroleum Co., Bartlesville; W. R. Boyd, Jr., vice chairman, American Petroleum Institute, New York, and C. A. Young, secretary, American Petroleum Institute, Dallas. F. A. Leovy, Gulf Production Co., Pittsburgh; J. Edgar Pew, Sun Oil Co., Philadelphia; W. S. Fitzpatrick, Prairie Oil & Gas Co., Independence; W. S. Farish, Humble Oil & Refining Co., Houston; L. P. St. Clair, Union Oil Co., Los Angeles; J. C. Van Eck, Shell Union Oil Co., New York; M. E. Lombardi, Standard Oil Co. of California, San Francisco; E. J. Nicklos, Continental Oil Co., Denver; R. Ogarrio, The Texas Co., New York; A. E. Watts, Sinclair Consolidated Oil Corp., New York; E. J. Sadler, Standard Oil Co. of New Jersey, New York; Wirt Franklin, Wirt Franklin Oil Co., Ardmore; E. T. Moore, Simms Oil Co., Dallas; R. W. McIlvain, Pure Oil Co., Chicago; R. S. Macmillan, Macmillan Petroleum Corp., Los Angeles; B. H. Stevens, Magnolia Petroleum Co., Dallas; R. A. Broomfield, Barnsdall Oil Corp., Los Angeles; C. C. Herndon, Skelly Oil Co., Tulsa; R. S. Ellison, Midwest Refining Co., Casper; H. V. Foster, Indian Territory Illuminating Oil Co., Bartlesville; W. M. O'Connor, Atlantic Refining Co., Philadelphia; O. D. Donnell, Ohio Oil Co., Findlay; D. S. Bushnell, Northern Group of Pipe Lines, New York; H. R. Straight, Empire Companies, Bartlesville; Edgar J. Marston, Texas Pacific Coal & Oil Co., Fort Worth.

Division of Refining

General Committee—W. M. Irish, chairman, Atlantic Refining Co., Philadelphia; W. R. Boyd, Jr., vice chairman, American Petroleum Institute, New York, and R. P. Anderson, secretary, American Petroleum Institute, New York. R. C. Holmes, The Texas Company, New York; J. Howard Pew, Sun Oil Co., Philadelphia; E. G. Seubert, Standard Oil Co. of Indiana, Chicago; K. R. Kingsbury, Standard Oil Co. of California, San Francisco; P. M. Miskell, Empire Companies, Tulsa; C. F. Meyer, Standard Oil Co. of New York, New York; George Legh-Jones, Shell Oil Co., San Francisco; E. M. Clark, Standard Oil Co. of New Jersey, New York; George R. Nutty, Gulf Refining Co., Pittsburgh; Lloyd R. Crawford, Producers & Refiners Corp., Independence; F. A. Pielsticker, Skelly Oil Co., El Dorado; E. W. Isom, Sinclair Refining Co., New York; Charles L. Suhr, Pennzoil Co., Oil City; R. B. Kahle, Beacon Oil Co., Everett, Mass.; D. J. Moran, Continental Oil Co., Ponca City; Jacob France, Mid-Continent Petroleum Corp., Tulsa; Harry C. Wiess, Humble Oil & Refining Co., Houston; Axtell J. Byles, Tide Water Associated Oil Co., New York; J. H. Graham, Indian Refining Co., Lawrenceville; C. L. Henderson, Vickers Petroleum Co., Wichita, Kan.; W. L. Stewart, Jr., Union Oil Co., Los Angeles; C. M. Fuller, Richfield Oil Co., Los Angeles; C. B. Watson, Pure Oil Co., Chicago; A. K. Whitelaw, Standard Oil Co. of Kentucky, Louisville; John L. Gray, Shaffer Oil & Refining Co., Chicago.

Division of Marketing

General Committee—Henry M. Dawes, chairman, Pure Oil Co., Chicago; W. R. Boyd, Jr., vice chairman, American Petroleum Institute, New York, and ——————, secretary, American Petroleum Institute, New York. Roy B. Jones, Panhandle Producing & Refining Co., Wichita Falls; W. T. Holliday, Standard Oil Co. of Ohio, Cleveland; H. B. Earhart, White Star Refining Co., Detroit; H. R. Gallagher, Shell Oil Co. of California, San Francisco; George P. Whaley, Vacuum Oil Co., New York; W. V. Hartmann, Gulf Refining Co., Pittsburgh; E. L. Shea, Tide Water Associated Oil Co., New York; W. S. S. Rodgers, The Texas Company, New York; J. A. Moffett, Standard Oil Co. of New Jersey, New York; J. W. Carnes, Sinclair Consolidated Oil Corp., New York; H. D. Collier, Standard Oil Co. of California, San Francisco; R. D. Matthews, Union Oil Co., Los Angeles; Harry D. Frueauff, Cities Service Co., New York; A. C. Woodman, Richfield Oil Co., New York; R. D. Leonard, Atlantic Refining Co., Philadelphia; E. J. Bullock, Standard Oil Co. of Indiana, Chicago; W. G. Violette, Standard Oil Co. of Kentucky, Louisville; H. A. Wilkerson, Standard Oil Co. of New York, New York; L. B. Cammon, Transcontinental Oil Co., Tulsa; M. G. Eitelman, Barnsdall Refining Co., Tulsa; O. L. Cordell, Independent Oil & Gas Co., Tulsa; E. S. Karstedt, Continental Oil Co., Denver; Wiley Moore, Wofford Oil Co., Atlanta; J. J. Johnson, Johnson Oil & Refining Co., Chicago; A. G. Maguire, Wadhams Oil Co., Milwaukee.

Activities of Divisions

The purposes and activities of the three new divisions are outlined by the institute as follows:

The board of directors of the American Petroleum Institute, at Chicago on December 3, 1929, adopted a resolution creating three major departmental activities of the institute to be designated as the division of production, the division of refining and the division of marketing.

The purpose of this action was to establish adequate departmentalized plan of organization and procedure whereby institute activities directly related to production, refining and marketing may be more generally participated in by the members; to provide separate forums where institute members, independently of other members differently engaged, may consider and discuss those problems which are pertinent to their particular branches of the petroleum industry; to obtain and maintain better and closer co-operative relationships between members engaged in the same branch of the industry; and to provide procedure for the board of directors to obtain consensus of opinion and specific recommendations with respect to general policies affecting the three major divisions of the industry's activity.

Section 1—General Management and Supervision

Each division shall function as a departmental activity of the American Petroleum Institute under the general management and supervision of the insti-

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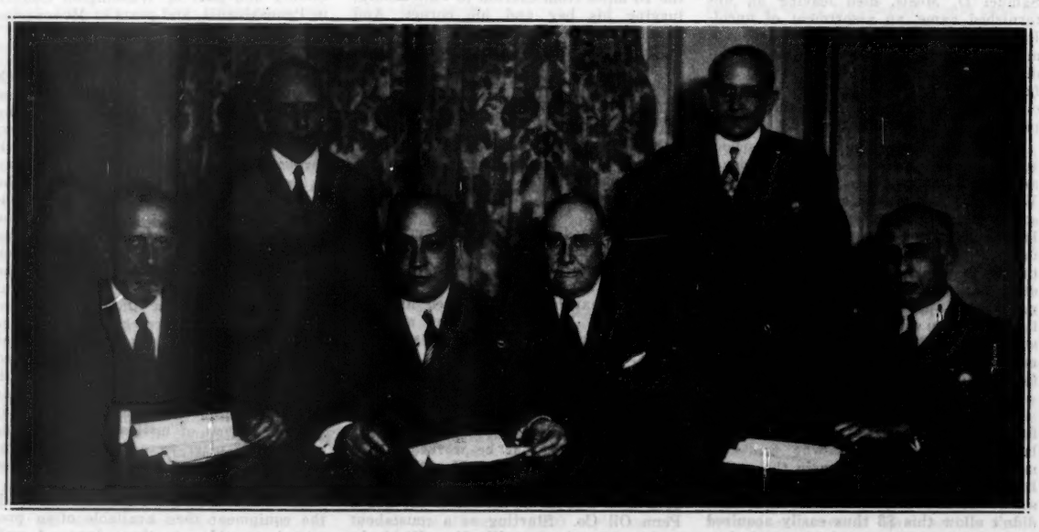
EXECUTIVES OF THE AMERICAN PETROLEUM INSTITUTE



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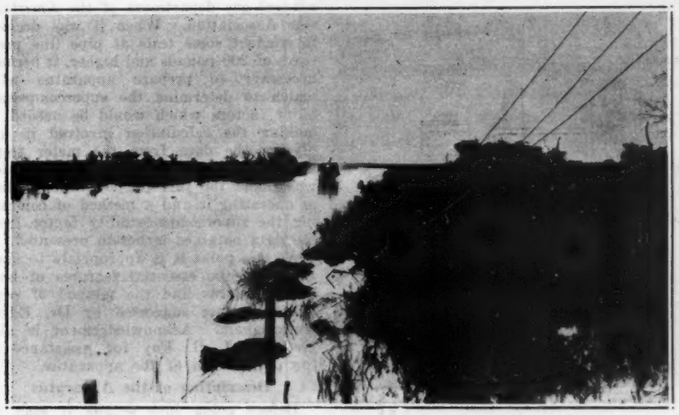
Gulf Coast Transportation Problems

Plank Roads Laid Over Floating Swamp Grass in Marshes of Lockport District. Barges and Boats Navigate Bayous and Streams

By Neil Williams

HOUSTON, Tex., Jan. 13.—Oil operators in the Gulf Coast district are confronted with many difficult problems, not a few of them peculiar to this area and which require a special acquaintance on the part of the operators with conditions on the Coast and a special study perhaps more so than in other areas, before they can be solved. It is believed that drilling and producing throughout the Coastal plains and marshes involve more hazards and difficulties than in any other producing area of the United States.

It would be a long undertaking to set out in detail all the many problems of coastal operators. That might prove an unending task because, as the Gulf Coast area has some extremely different conditions from those in other territories, so each field and each new pool being opened seems to be a different situation in itself in many ways. Thus, this article must be confined to a general treatment of a few of the more prominent problems, one of which is transportation.



Typical canal in south Louisiana dredged by an oil company through marsh land in Terrebone Parish.

Much of the Gulf Coast is marsh land; not a little of which is composed of the beds of bays, lakes, bayous and the like, all difficult of access. There are no railroads or roads in much of this territory to facilitate the operator's entry, and less are there any natural conditions to aid the oil operators in constructing roads or other facilities for carrying on development.

Providing of transportation facilities, the building of roads through swamps and marshes the construction of bridges, trestles and what not, the dredging of canals, etc., has cost Gulf Coast operators millions of dollars, but, although the knoweldge gained from past accomplishments of breaking down the barriers of inaccessibility has proved and is proving of extreme value in the entering of each new area, the peculiarity of the coastal transportation problem lies in the fact that each new area presents many different situations not previously met. The difference is more striking than that between the various fields of other sections of the country.

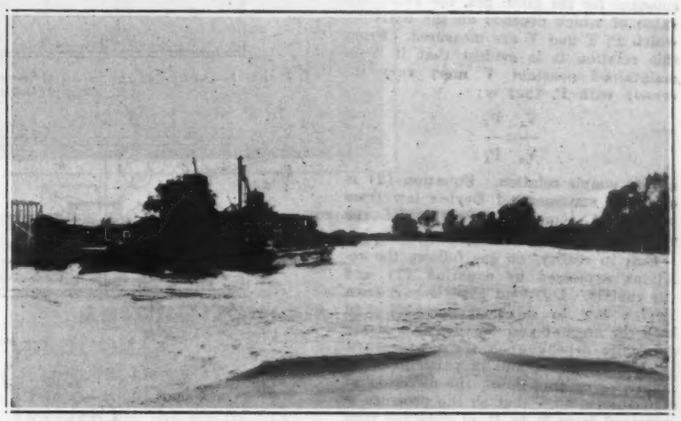
Problems in Transportation

Some of the problems of transportation which have been encountered on the coast can be well illustrated by a detail of the conditions existing in a few of the many fields. In the Lockport district of Calcasieu Parish, Louisiana, thousands and thousands of dollars have been spent in the building of suitable roads over the marshy land to the wells drilled there. The Lockport marsh consists of a black, mucky ooze which averages in depth about 60 feet, on top of which there is a growth of swamp grass. The roots of this coarse grass are very tough and closely matted and form a sort of floating carpet about 3 feet thick. This carpet, although very soft and springy, if kept unbroken will support loads of almost unbelievable weight. From the edge of the marsh, where the shell road ends, a system of timber roads has been built to connect with all the wells. Care had to be taken in building this wood road system so that the grass matting be kept unbroken as the ooze underneath would not support anything, and because of tide water which covers the area at times, the roadways had to be elevated at least 6 feet above the marsh.

This problem was solved by the laying of a matting of 2 by 12 planks flat on the grassy carpet of the marsh. The roadways themselves consisted of a flooring of 2 by 12 planks laid on timber bents placed 8 feet apart and supported by heavy timber stringers, all of which rest on plank matting base. Many miles of this roadway has been built at Lockport connecting all parts of the field. This particular marsh condition has not been encountered at any other field.

To the south and west of the Lockport district, in Cameron Parish, Louisiana, is the Hackberry Field. To be exact, there are two fields in the Hackberry district, one known as the Old Hackberry Dome and the other East Hackberry, or Kelso Bayou Dome. Materials and supplies going to the East Hackberry Dome are sent principally by barge either from Lake Charles, La., or from Beaumont, Tex. This method is slow and costly as the greatest part of field equipment is heavy and awkward to handle on barges.

Operators along the southern and eastern edges of the Old Hackberry Dome are more fortunately situated as their wells can be easily reached over good shelled roads by trucks and trucking is one of the most economical of all forms of transportation. A few wells drilled closer up on the dome are on the edge of the marsh and have required plank roads from the end of the shell. This type of road is constructed over boggy places by the laying of 2 by 8 or 2 by 12 planks on stringers of 6 by 8 timbers. As this type of roadway is placed directly on the ground allowing rapid rotting of the wood it has proved very costly.



Barge load of drilling equipment ready to be towed down a south Louisiana canal.

By Barge and Boat

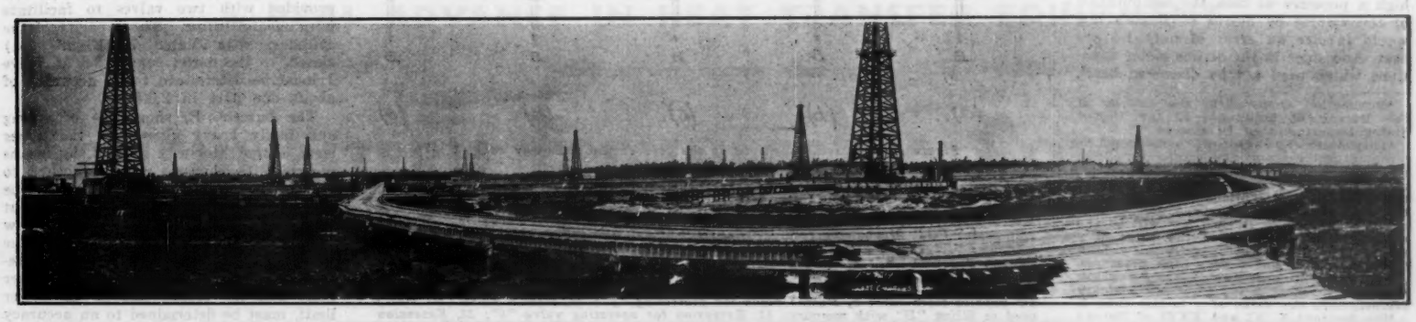
The northern and western parts of the dome present a more difficult problem of transportation. Access to that vicinity is practically impossible by timber roads, due to the extremely boggy swamp and due to the distance from the end of the shell. It therefore is necessary to use boats and barges exclusively. All shipments designated for that part of the dome, which is on the south bank of Black Lake, are loaded at Beaumont, Tex., pass through the intercostal canal to Calcasieu Lake, a distance of some 45 miles, down Calcasieu Lake to Kelso Bayou, up this bayou to Black Lake, and thence across the lake to the operators' private canals. In this connection, all the oil produced on the two Hackberry domes is taken out by barges over the same route back to Beaumont or Orange.

The dredging of canals is a slow and tedious proposition. Sometimes these canals must be dredged as much as 10 or 15 miles to reach locations to which because of boggy soil conditions it is impossible to lay any kind of a road, and to which because of the shallowness of the existing water it is impossible to reach by boat without dredging. The necessity for dredging is frequent in southern Louisiana, whose coast strip is mostly vast expanses of marshes. Vacuum Oil Co. now is engaged in a dredging project to the first location on a dome prospect it has discovered in the marshes of southwestern Cameron Parish, one of the most isolated sections of the entire Gulf Coast area. This first canal will have to be about 4 or 5 miles long, the entrance to which will be by way of Johnson Bayou, the materials hauled, coming by boat through Sabine Lake. Vacuum has been on this dredging for about a month. In an accompanying picture is a typical barge loaded with oil field equipment. This will give some idea of the extent of dredging necessary in these waterways.

Costly Transit

Rycade Oil Corp., while prospecting on its Bayou Bouillon Dome in the Atchafalaya, swamp, was confronted with an extremely costly transportation problem. The nearest point of shipping which could be depended on during both the high and

(Continued on Page 139)



A panoramic view of the Lockport Field in Coastal Louisiana. The trams afford the only access to the various rigs in the heart of a deep marsh where production was found. All of the derricks in the marsh have to be built on mats. It is roughly estimated the marsh is 60 feet deep on an average.

Determining Compressibility of a Gas

Apparatus and Method Described for Accomplishing This and Also the Correction for Supercompressibility

By Howard S. Bean
Physicist, United States Bureau of Standards*

In the development of the gas industry, and particularly the natural gas industry, the question of measurement is ever present. The continual demand for smaller and smaller limits of uncertainty has made it necessary that every detail involved in gas measurement be given careful attention and study. Gas companies, gas meter manufacturers, and technical institutions and associations have spent large amounts in time and money in the study of these details, and there still remains much to be learned.

One of the troublesome details in gas measurement arises from the fact that the volume occupied by a given mass of gas depends upon the temperature and pressure. These variations of the gas volume with the temperature and pressure would introduce no serious difficulty if our natural and industrial gases followed the ideal gas equation, $P V = R T$, in which P and T are, respectively, the absolute pressure and absolute temperature; V is the volume of a unit mass of gas, or the reciprocal of the density, and R is the so-called gas constant for the given gas, the numerical value of which depends on the units by which P, T and V are measured. From this relation it is evident that if T is maintained constant V must vary inversely with P, that is:

$$\frac{V_1}{V_2} = \frac{P_2}{P_1}$$

a very simple relation. Equation (2) is merely a statement of Boyle's law from which the common conception of the compressibility of a gas is obtained.

But, in reality, no gas follows the relations expressed by equation (1) and (2) exactly. Different gases depart from Boyle's law by different amounts, and both the amount and the direction of the departure depend upon the temperature. With most gases, and in particular, the industrial or fuel gases, the direction of departure is such that as the pressure is increased from P_1 to P_2 at constant temperature, the volume decreases more than it should to satisfy equation (2). This behavior of a gas may be represented by writing equation (2) in the modified form

$$\frac{V_1}{V_2} = y \frac{P_2}{P_1}$$

in which y is a numerical factor slightly greater than 1.00[1].

Supercompressibility

This excess of compressibility over what is indicated by Boyle's law may be called the "supercompressibility," and the quantity y will be designated as the "supercompressibility factor."

For air at 60° F., the value of y at the absolute pressure P=600 pounds per square inch is about 1.014. Hence at so high a pressure as this, the computation of the volume by means of Boyle's law would involve an error of only 1.4 per cent. And since in the orifice meter equations which need not be discussed here[2], pressure appears only as the square root, the resulting error in the rate of flow deduced from orifice meter readings would be only about 0.7 per cent—an amount which would be negligible in many cases.

With most natural gases, however, the departures from Boyle's law are much greater than with air, and the use of the second equation without including the correction factor y may result in serious errors, if the gas is metered at high pressures. For example, in the case of a natural gas for which experimental data will be given later (Table 1), the value of the supercompressibility factor, at 32° F. and 210 pounds per square inch absolute pressure, was found to be nearly 1.04. If this gas were measured under these conditions through an orifice meter, the correct volume at atmospheric pressure deduced therefrom would be nearly 2 per cent greater than would be found by the use of Boyle's law. At 600 pounds per square inch the error might be nearly three times as great.

So long as the pressures at which gases were metered were relatively low, say 75 lb./sq. in absolute or less, the effects of supercompressibility were of little or no commercial importance. But the increasing tendency to raise the pressures on transmission lines has necessarily led to the use of meters at higher pressures, and instances have been reported of measurements at pressures between 700 and 1,000 pounds per square inch. This rise in working pressures, coupled with the increasing demand for more accurate metering, has made supercompressibility a subject of considerable commercial importance.

For several years the Bureau of Standards has been co-operating in researches on orifice meters conducted by the committee on gas measurement of the natural gas department of the American Gas Association. When it was decided to conduct some tests at pipe line pressures of 200 pounds and higher, it became necessary to prepare apparatus with which to determine the supercompressibility factors which would be needed in making the calculation involved in analyzing the data from the meter tests. A description of the apparatus which was made for this purpose, the method of operating it and a method of computing the supercompressibility factor from the data obtained is herein presented.

At this point it is appropriate to mention that the essential features of both the apparatus and the method of computation were suggested by Dr. Edgar Buckingham. Acknowledgement is also given to J. R. Fay for assistance in the preparation of the apparatus.

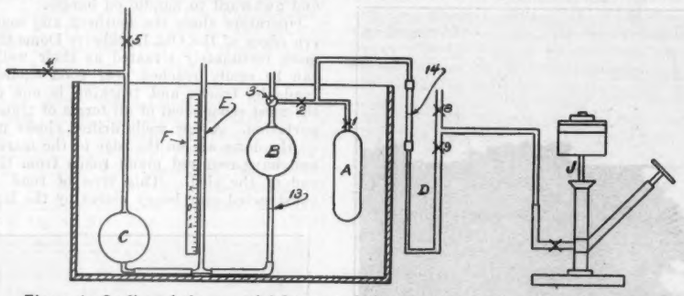


Figure 1—Outline of the essential features of the apparatus used to determine the supercompressibility factor of a gas.

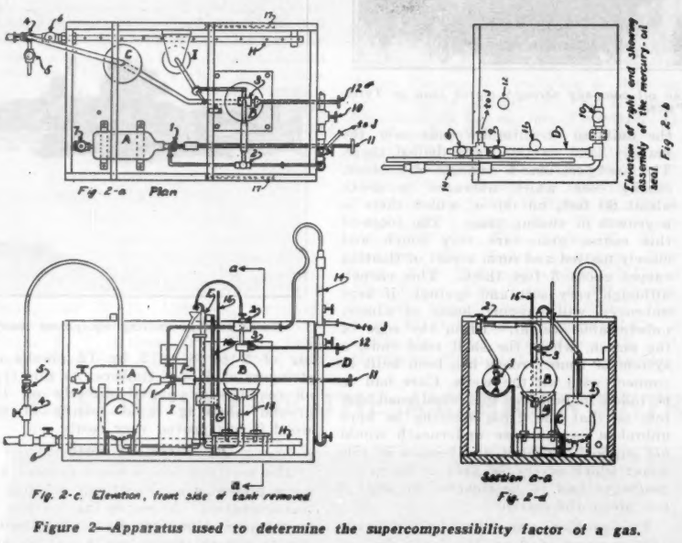


Fig 2-a Plan
Elevation of right end showing assembly of the mercury-oil seal
Fig 2-b
Fig. 2-c. Elevation, front side of tank removed
Section a-a
Fig. 2-d

Figure 2—Apparatus used to determine the supercompressibility factor of a gas.

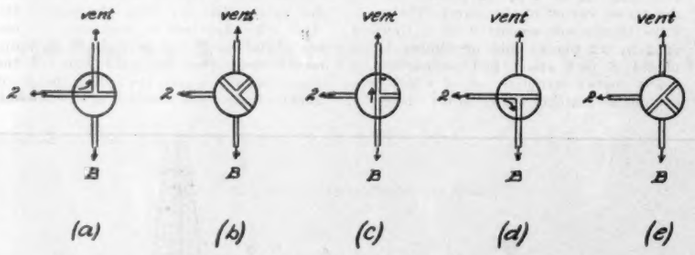


Figure 3—Successive positions of the core of the three-way cock, 3.

Description of the Apparatus

Before going into details it may be stated that the principle of the method is briefly as follows: After a sample of the gas has been collected at high pressure in a steel cylinder of known capacity, successive small portions of the sample are withdrawn into a glass burette where their volumes can be determined at atmospheric pressure. This is continued until the whole sample has been reduced to atmospheric pressure, and the sum of all the volumes at atmospheric pressure is then compared with the volume to which the initial known volume of gas would have expanded if it had been reduced to atmospheric pressure in accordance with Boyle's law.

The principal parts of the apparatus and the method of connecting them are shown schematically in Figure 1, while Figures 2a and 2d show the apparatus in detail. The list of parts indicates very briefly the purpose or function of each of the separate parts, but it is advisable to discuss some of them more fully and to point out certain desirable qualities they should possess.

The cylinder A (Figure 1) need not be very large—the capacity of the one used was about 36 cubic inches. It should be strong enough to withstand any pressure at which a test is to be started without expanding appreciably. While not essential, it is convenient to have the cylinder provided with two valves to facilitate purging and filling. The capacity of the cylinder, with Valve 7 (Figure 2-a) closed, to the outlet connection of Valve 1 must be determined to an accuracy of about one part in 2,000.

The burette, B, should be of strong and fairly heavy glass. In the upper stem is the three-way cock, 3, by means of which the burette may be opened to the atmosphere for purging, or to the tube for connecting it with A. About the lower neck, a short distance below the body of the burette, is an etched line (13). The capacity of the burette, between the three-way cock as the upper limit and the etched line as the lower limit, must be determined to an accuracy of one in 2,000 or better. (The passages

(Continued on Page 107)

LIST OF PARTS

"A," Gas cylinder for holding gas sample; "B," Measuring burette or chamber; "C," Mercury reservoir; "D," Mercury-oil (or oil) seal; "E," Manometer tube; "F," Manometer scale; "G," Manometer reading slide; "H," Agitator tube; "I," Trap for spilled mercury; "J," Piston gauge; 1, Needle valve, gas cylinder outlet; 2, Needle valve, for admitting gas to "B"; 3, Three-way glass cock; 4, ⅛" Needle valve for admitting pressure to "C"; 5, ⅛" Needle valve atmospheric relief for "C"; 6, Valve for regulating gas (or air) flow to "H"; 7, Needle valve for filling "A," ¼"; 8, Needle valve for releasing air bubbles from "D"; 9, Needle valve for protecting "J"; 10, Needle valve (all steel) used in filling "D" with mercury; 11, Extension for operating valve "1"; 12, Extension for operating cock "3"; 13, Etched line about lower neck of "B"; 14, Etched line about middle of glass tube portion of "D"; 15, Extension rod for moving "G"; 16, Guide rod on which "G" slides; 17, Windows in box sides.

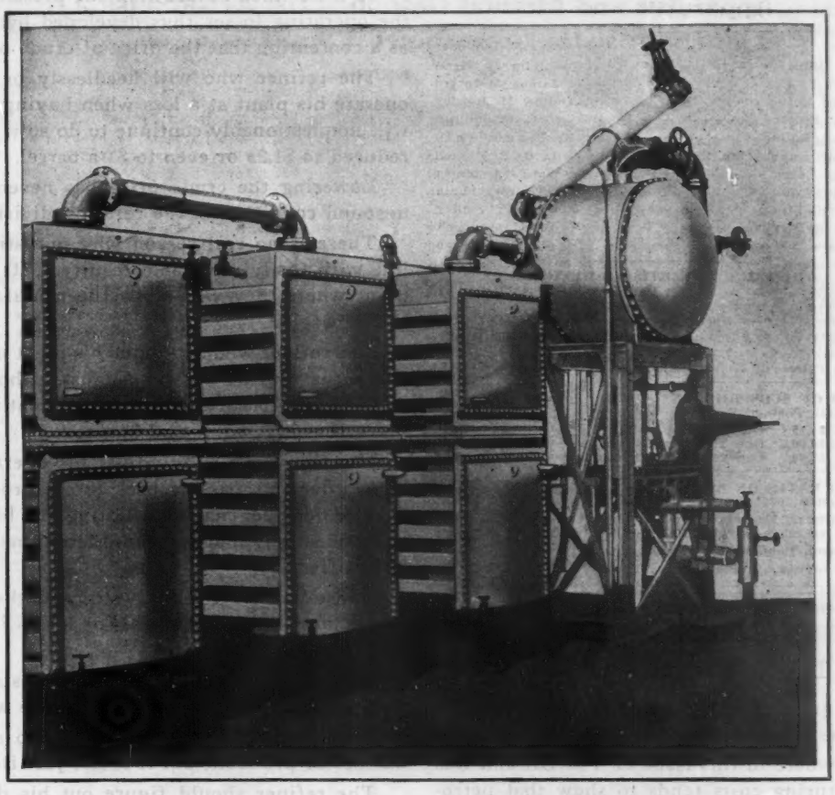
*Publication approved by the director of the Bureau of Standards of the United States Department of Commerce.

[1]This statement is true when restricted to most natural gases at the temperatures and pressures ordinarily encountered in commercial work. From a general standpoint there are many exceptions to it, one being that for almost all gases the direction of the departure from Boyle's law will be the reverse of that stated and the value of y will be less than 1.00 at sufficiently high temperatures or under very high pressures. Another exception is that for some gases, notably hydrogen and helium, at ordinary temperatures the value of y is less than 1.

[2]See Sections X, XI and XXVI of Bureau of Standards Research Paper No. 49, "Discharge Coefficients of Square-Edged Orifices for Measuring the Flow of Air."

PERFORMANCE IS THE REAL FACTOR

FIELD OPERATIONS PROVE CORRECTNESS OF ENGINEERING DESIGN



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DATA FROM PLANT OPERATIONS

HEAT EXCHANGERS

RICH OIL	No. 1	No. 2	No. 3
Temp. in, Deg. F	96	145	200
Temp. out, Deg. F	146	201	282
Pressure in, lbs. sq. in.	80	73	66
Pressure out, lbs. sq. in.	71	66	61
LEAN OIL			
Temp. in, Deg. F	175	234	330
Temp. out, Deg. F	124	176	235
Pressure in, lbs. sq. in.	150	160	17
Pressure out, lbs. sq. in.	142	150	14
Mean Temp. Diff °F	29.0	30.0	43.0
Heat Trans. Rate *or the B.T.U., per sq. ft., per hour, per degree mean temp. difference*	109.0	130.0	176.0

ABSORPTION OIL PREHEATERS

RICH OIL	No. 1	No. 2
Temp. in, Deg. F	278	279
Temp. out, Deg. F	365	366
Pressure in, lbs. sq. in.	60	61
Pressure out, lbs. sq. in.	44	45
STEAM		
Temp. in, Deg. F	382	382
Temp. out, Deg. F	382	382
Pressure in, lbs. sq. in.	185	185
Pressure out, lbs. sq. in.	185	185
Mean Temp. Diff °F	48.0	48.0
Heat Trans. Rate *or the B.T.U., per sq. ft., per hour, per degree mean temp. difference*	295.0	295.0

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LOWERING THE CRUDE PRICE

There is considerable argument being heard for lowering the crude price structure because refiners are operating at a loss.

An article appearing elsewhere in this issue of The Oil and Gas Journal discussing manufacturing costs tends to show that petroleum refiners in the Mid-Continent as a whole are losing money on their present operations.

There may be exceptions to this situation due to some particularly favorable circumstance, but there can be no doubt the article points to a general condition that has confronted the Mid-Continent refiners for several years.

But it is by no means so clear that this situation justifies a reduction in the price of crude oil.

The question naturally arises why should a petroleum refiner operate his plant at a loss?

It is not an unusual situation for a manufacturer to operate his plant at a loss for a part of the year, making up for this loss over the balance of the year. Automobile manufacturers, many of them at least, are said to operate at a loss in finishing up a year or at the start of a year when new models are being introduced.

They expect to make their money during the season of greatest demand for motor cars, making up their between-season loss and securing their profit during this period.

But there is no excuse for the petroleum refiner operating on this basis.

His operations are not based on the introduction of new models or new equipment in which radical changes have been made in manufacturing operations or in preparing the sales department to introduce the new goods to the consuming public.

He is a manufacturer who is producing several products, the most important of which is motor fuel that is in the nature of an essential commodity the specifications for which show very little change throughout the year and the demand for which can be anticipated within a small fraction of error.

There is no incentive for him to overproduce or to continue operations at a loss at any season. With just so much ascertainable demand operations can be distributed upon a profitable average.

To continue operations when the visible demand has been supplied is bad enough but to continue operations at a manufacturing loss is still worse.

It adds to the loss from declining prices caused by overproduction the direct and immediate losses in manufacturing, a double waste that is indefensible on any theory of business.

Is it not then absurd that the present low price of gasoline and the operating losses thus developed by refiners should be offered as a contention that the price of crude oil ought to be reduced?

The refiner who will heedlessly or thoughtlessly continue to operate his plant at a loss when buying crude at say $1.50 a barrel will unquestionably continue to do so if the price of crude oil were reduced to $1.25 or even to $1 a barrel.

Lowering the crude price has never rectified a fundamentally unsound condition in the refining division, and never will.

There is no real reason why operations cannot be curtailed in line with easily calculable requirements and prices adjusted to the point where they will allow the manufacturer the necessary operating margin.

The refiner who maintains his plant operations on the same basis in February as he does in August, although he knows the gasoline demand in February will be 50 per cent under that in August, must know that it is not sound business.

His first duty is to adjust his operations in keeping with the known demand, passing back to the producers any excess of crude that he does not need and letting the basic conditions—the limitations of supply and demand—determine whether a crude price cut is justified.

Those who have made a study of the situation believe that one of the most important causes of losses in refining is lack of information regarding costs.

Too many are inclined to look at costs from a yearly basis, rather than from month to month or week to week.

That method may be applicable to automobiles, radios, or any number of products, but it is not justified in refining.

The refiner should figure out his demand and what his costs and margins are and operate on that basis, letting the future take care of itself. If he does this he will not operate at a loss and he certainly will not continue to overproduce and break down his market.

The best profits in the refining business were not made on low crude prices but on fair prices when conditions in the oil industry were sound.

The idea that prosperity in the refining division depends upon low crude prices is a survival of the exploded theory of recurring ups and downs which the industry has been striving to get away from by stabilization.

Lowered crude prices forced curtailment of production which in turn increased prices and the refiner was back where he started from in the matter of raw material costs.

Distress priced crude never helped any branch of the industry. It merely accelerated overproduction of gasoline and the motor fuel market followed the crude market downward until diminishing supply of crude turned the tide.

But today is vastly different.

Cheapening crude would not check the refiner's real danger—oversupply of gasoline. On the contrary, it would be certain to increase it.

And with the present actual and potential supply of crude it would be many a day before there could be any hope of the tide turning.

Instead of being of any possible benefit to the refiner lowering the price of crude would not only fail to cure his ills which are due to a condition wholly aside from the crude price but would inevitably aggravate his situation.

The real remedy would be to have the refiner set his own house in order by reducing his runs to the requirements of demand and leaving the excess crude to adjust the producers market or his production whichever he prefers.

A long the trail of the lonesome pines
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Antiknock Fuel From Pennsylvania Oil

Obtain Large Yield of Gasoline of 50 Per Cent Benzol Equivalent in Cracking Gas Oil Stock

By Gustav Egloff and Edwin P. Nelson
Universal Oil Products Co.

One of the latest outstanding developments in the cracking process is the production of motor fuel of 50 per cent benzol equivalent by the conversion of Pennsylvania gas oil at relatively low temperatures and pressures. It is well known that straightrun gasolines from Pennsylvania, Muskegon, Mich., or other paraffinic crude oils, are highly knocking during combustion in a motor. It is generally believed that cracking gas oil or fuel oil from paraffinic crudes will yield motor fuel of low knock rating unless one cracks at high temperatures under so-called vapor phase conditions.

This belief is erroneous. Pennsylvania gas oil of 38°-40° A.P.I. gravity is being converted commercially at a comparatively low temperature, 925° F., and pressure of about 200 pounds into yields of over 65 per cent gasoline having an average knock rating of 50 per cent benzol equivalent. The quality of the cracked Pennsylvania gasoline thus produced is equal or superior to premium gasolines which sell from 3 to 4 cents a gallon above regular motor fuel prices.

This is shown by a study made of 20 premium gasolines purchased from filling stations, and their knock rating determined in a Delco engine. Twelve of the gasoline samples contained an antiknock chemical of a well known brand. Their knock ratings, expressed in terms of per cent benzol in admixture with Pennsylvania straightrun gasoline, varied from 45 to 53 per cent. Two of the gasolines were vapor phase cracked products which showed knock ratings of 49 and 50 per cent benzol equivalent. Full data are given in the following table:

Benzol equivalent per cent	Premium charged cents per gallon
45	3
45	3
45	3
45	3
47	3
48	3
48	3
48	3
48	3
48	3
49	4
50	4
50	3
51	3
51	3
51	3
53	3
53	3
53	3

The runs tabulated below show the results obtained with two commercial units cracking Pennsylvania gas oil to gasoline having a knock rating of 47 to 53 per cent benzol equivalent.

Cracking unit	Run No.	Benzol equivalent per cent
No. 1	103	50
No. 1	104	47
No. 1	105	53
No. 1	106	50
No. 2	105	51
No. 2	106	51
No. 2	107	51
No. 2	108	50
No. 2	109	51

Charging Stock

The light gas oil used during these operations gave the following analysis by the A.S.T.M. method:

A.P.I. gravity	38.4°
I.B.P.	346.° F.
Per cent distilled over	°.F.
5	436
10	464
20	493
30	520
40	544
50	578
60	614
70	640
80	679
90	716
Endpoint	758
Recovery, per cent	97

The gas oil was cracked at the rate of 1,400 bbls. per unit per day. The yield of gasoline was over 65 per cent based on a once throughput of the cracking stock. The average benzol equivalent of the cracked motor fuel of 425° F. endpoint, produced during a month's commercial operation, was 50 per cent.

SUMMARY OF OPERATION

1. Throughputs and Yields

Gas oil charge, bbls. per run	5,583
Gas oil charge, bbls. per day on stream	1,410
Cracked distillate, bbls. per run	4,583
Per cent of gas oil cracked	82.2
Absorption gasoline, per cent of gas oil cracked	1.8
Total liquid recovery, per cent	84.0
Coke, tons per run	75.6
Coke, lbs. per bbls. gas oil cracked	27.1
Gas (cu. ft. per bbl. of gas oil)	530
Gas (cu. ft. per bbl. of gasoline)	779
Gasoline (total commercial recovery) per cent of charge	63.0
Furnace oil, per cent of charge	14.0

2. Operating Conditions

Reaction chamber pressure, l.b. per sq. in.	285
	° F.
Transfer	925
Vapors entering dephlegmator	865
Reflux	800
Vapors to condenser	510
Furnace (above tubes)	1,550
Furnace (below tubes)	1,050

3. Operating Cycle

	hours
Time from fire to producing cracked distillate	2
Time producing cracked distillate	104
Time cleaning pressure still	14
Complete cycle	120
Per cent of time producing cracked distillate	86.7

Operation of Process

The cracking units which operated on the Pennsylvania gas oil consisted of furnaces each containing 72 steel tubes, 4 inches in outside diameter with quarter-inch walls. The heating tubes were 30 feet long and interconnected with return bends having plugs opposite each tube opening. The reaction, expansion or vaporizing chambers were 10 feet in diameter, 45 feet high and had walls 2½ inches thick. The dephlegmators were 4 feet in diameter and 43 feet 6 inches high. Each cracking unit was equipped with hot oil surge pumps, charging stock pumps, recirculating pressure distillate pumps and instruments to record the temperatures and pressures.

The diagrammatic flow chart and two photographs illustrate the apparatus for carrying out the cracking process. The gas oil was pumped from storage into the fractionating tower so as to condense the heavier vapors therein and raise the temperature of the incoming oil. The charging stock mixed with condensed vapors, was pumped, by means of a hot oil surge pump, through the heating coil in the furnace wherein the temperature was raised to 925° F. The heated oil passed through a transfer line into an insulated steel jacketed chamber where the coke produced by the cracking reaction accumulated, while the vapors passed through a pipe connection to the bottom of the dephlegmator. The distillate vapors flowed from the top of the dephlegmator to and through a water cooled condenser, and then as a condensate into a receiver. To control the temperature at the top of the dephlegmator, a portion of the pressure distillate was recirculated, the quantity being regulated according to the quality of the cracked vapors desired.

The cracked oil was passed into a gas separator, where the dissolved gases were evolved by reduction of pressure from about two hundred pounds in the receiver to thirty pounds. The pressure control of the cracking system was maintained by a valve on top of the distillate receiver, by allowing the escape of excess uncondensable gas. The pressure distillate, largely degassed, flowed from the separator to storage. The gas from the top of the separator was treated by an oil absorption system to recover gasoline therefrom, of which the gas contained about one gallon per 1,000 cubic feet. The gas leaving the top of the high pressure distillate receiver was used in different parts of the refinery as fuel.

Continuous Refining

The pressure distillate produced by the cracking process was chemically treated in a continuous manner with sulphuric acid, caustic soda and water. This distillate was pumped through a mixer fitted with baffle plates, at the rate of 2,200 bbls. per eight-hour day, wherein it contacted with acid in the proportion of one and one-half pounds of 66° acid per barrel of oil. It then passed to acid settling tanks. The acid sludge settled out in the two tanks and was drawn off to storage, ultimately to be regenerated. The acid treated pressure distillate passed into another tank, flowing counter to a water spray. The washed pressure distillate passed to a settling tank, where the water was drawn off from the bottom. The distillate flowed into a series of mixing columns, contacting with 6° Baume caustic soda solution at the rate of 0.08 gallons of caustic soda per barrel of cracked distillate.

The mixture of caustic soda and pressure distillate passed into a settling tank from the bottom of which the spent caustic soda was drawn and passed into storage. The treated pressure distillate was fed to another tank, flowing counter to a second water spray. The finished chemically treated pressure distillate passed to a storage tank.

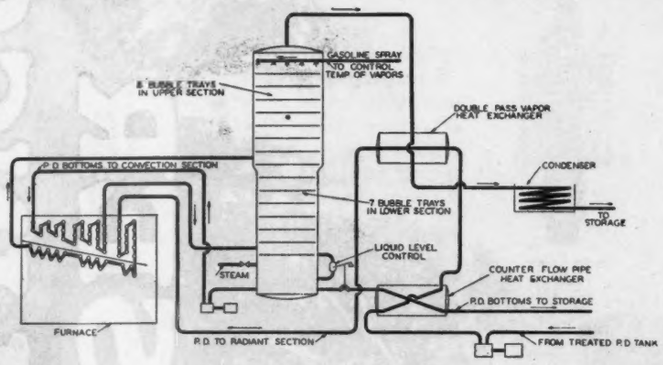
A diagram of the treating plant indicates the flow of chemicals and pressure distillate.

The chemically treated oil was subjected to distillation in a pipe still and bubble tower unit to produce gasoline and pressure distillate bottoms. The flow chart of the apparatus is shown. The chemically treated pressure distillate was pumped through heat exchangers connected to the pressure distillate bottoms draw off line from the base of the tower and vapor line from the top of the bubble tower. The cracked distillate was raised in temperature by the heat exchangers to approximately 240° F., and passed through a pipe coil in the radiant section of the furnace, where its temperature was increased to approximately 380° F. The heated pressure distillate passed from the pipe coil, into the bubble tower. Here it was fractionated into gasoline vapors and pressure distillate bottoms. The gasoline vapors passed from the top of the tower to a double pass vapor heat exchanger and water cooled condenser and then to storage. The temperature of the gasoline vapors leaving the bubble tower was closely controlled by pumping a portion of the endpoint gasoline through a spray device at the top so as to produce a finished 425° F. endpoint gasoline. The uncondensable gas from this operation was collected from the storage tank and passed to an absorption system to recover its gasoline content.

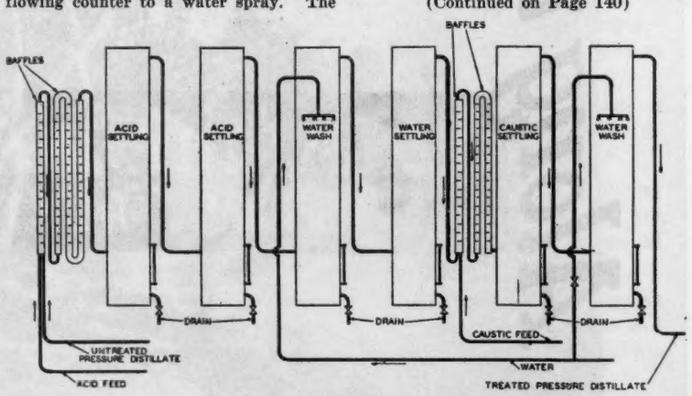
From the bottom of the bubble tower, the pressure distillate bottoms passed through a heat exchanger and to a storage tank. A portion of pressure distillate bottoms was pumped through a separate heating coil acting as a reboiler, in order to improve the fractionation and yield of motor fuel from the pressure distillate oil. Steam was injected into the bottom of the tower to act as a refining agent and by its partial pressure cause the pressure distillate to distill at a lower temperature.

The pressure distillate was analyzed

(Continued on Page 140)

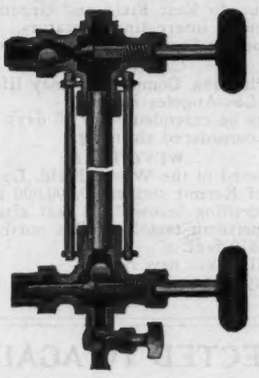


Flow chart of redistilled equipment.



Flow chart of continuous treating plant.

The LEADERSHIP of PENBERTHY PRODUCTS



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DIRECTOR BURGESS TELLS DETAILS OF PLANS TO TEST PIPE COATINGS

Details of the proposed tests of protective coatings under consideration by the American Petroleum Institute and the United States Bureau of Standards are given in a letter prepared by George K. Burgess, director of the bureau. The letter is being sent to members of the A.P.I. subcommittee on Production and Pipe Line Corrosion, the corrosion committee contact representatives, manufacturers of protective coatings and others.

There is at present no organization representing the makers of protective coating materials and for that reason Director Burgess says there is difficulty in reaching all such manufacturers who might be interested in the investigation planned and desire to co-operate in it. The letter follows:

"The American Petroleum Institute has indicated its desire to undertake a study of protective coatings for pipe lines in co-operation with manufacturers of coatings and the Bureau of Standards.

"It is our understanding that the purpose of the proposed study is not to compare individual coatings, but to determine the engineering principles upon which the selection of protection for pipe lines should be based. It is proposed that approximately 10 types or classes of coatings be applied to working oil lines laid in perhaps 10 kinds of soils varying in their relation to pipes and coatings from mildly destructive to very destructive.

"Owners of pipe lines will be asked to provide lines and labor for the application and inspection of the coatings. Coating manufacturers will be asked to furnish the coating materials and supervise their application. The Bureau of Standards will supervise the collection of data and prepare reports on the investigation. A more detailed plan of the proposed test will be found in the report of the American Petroleum Institute research associate to the subcommittee on production and pipe line corrosion, copies of which were distributed at the meeting of the Institute last December.

"The selection of the very limited number of coatings which can be applied to working lines is a matter of the utmost importance and will be based on the experience of makers and users of protective coatings. You are therefore requested to suggest one or more types of coatings which you believe should be studied, bearing in mind that the purpose of the test is to establish the engineering principles involved in the selection of a coating rather than to compare the merits of individual coatings. Each part of the coating, e.g., primer, bituminous material, reinforcing wrapper, etc., should be so described as to identify it by its characteristics or physical properties, unless such a description has already been submitted in connection with the materials supplied for the test sponsored by the American Gas Association,

Trade Names May Be Used

"Users of protective coatings may suggest proprietary materials by their trade names, and the suggestions will receive due consideration provided adequate descriptions can be secured from the manufacturers.

"If you are the maker of coatings which you suggest for test, please indicate whether you are willing to supply the material necessary for the test and to supervise its application. The amount required would probably be that needed to coat a total of 600 feet of 8-inch line.

"This material would be distributed among 10 locations as previously indicated.

"The final selection of the coating will be made by the American Petroleum Institute subcommittee on production and pipe line corrosion.

"In order to start the tests this spring it is necessary to limit the consideration of suggested coatings to those submitted not later than January 30.

"Your assistance in the selection of the types of protective coatings to be studied will be greatly appreciated."

THE OIL MAN'S CALENDAR

January 19-25—Chicago, National Oil Show, Hotel Sherman.

January 20-24—Detroit, Mich., annual meeting, Society of Automotive Engineers, Book-Cadillac Hotel.

January 22-24—Boston, Mass., Independent Oil Men's Association of New England, American House.

January 23-24—Oklahoma City, Okla., Oklahoma Oil Jobbers Association, Huckins Hotel.

January 25-February 1—Chicago, National Auto Show, Coliseum.

January 24—Pittsburgh, Pa., annual meeting of Fire and Safety Marshals, National Petroleum Association, William Penn Hotel.

January 27-31—Philadelphia, International Heating and Ventilating Exposition, Commercial Museum.

January 28-29—Milwaukee, Wis., Wisconsin Petroleum Association, Hotel Pfister.

January 30-31—Baltimore, Md., A.S.T.M. Committee D-2 on Petroleum Products and Derivatives, Lord Baltimore Hotel.

February 11-12—Des Moines, Iowa, Iowa Petroleum Association, Fort Des Moines Hotel.

February 17-20—New York City, annual meeting A. I. M. & M. E., Engineering Societies Building.

February 19-21—Columbus, Ohio, Ohio Petroleum Marketers Association, Deshler-Warwick Hotel.

March 10-12—Shreveport, La., convention, Western Petroleum Refiners Association.

March 16-23—Los Angeles, Cal., Oil Equipment and Engineering Exposition, Shrine Auditorium.

March 19-21—Detroit, convention, Michigan Oil Men's Association, Statler Hotel.

March 20-22—New Orleans, La., American Association of Petroleum Geologists, Roosevelt Hotel.

April 5—New York, 50th Anniversary Celebration, American Society of Mechanical Engineers.

April 5-13—Detroit, All American Aircraft Show.

April 7-12—Chicago, annual meeting, American Oil Burner Association, Stevens Hotel.

Late Fields

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Jan. 14.—United North & South's No. 1 Dix in Darst Creek Field, completed today, is flowing at the rate of 2,400 bbls. daily. Magnolia's No. 3 Dix, completed at 2,600 feet, is flowing 800 bbls. Gulf Production Company's No. 1 Anderson, the biggest well in southwest end of the field, is flowing at the rate of 3,000 bbls. a day.

CALIFORNIA

LOS ANGELES, Cal., Jan. 13.—In the Playa Del Rey Field of Los Angeles basin, the Ohio Oil Co. is rigging up rotary equipment for a second well to be drilled southeast of the discovery which came in under a natural flow late in December. The first completion in this field has been beaned down to 1,000 bbls. daily and is producing a little better than 1,000,000 feet of natural gas daily. The natural gas from this well is very rich, as several tests indicate a natural gasoline content of approximately four gallons for each 1,000 feet of gas. The Los Angeles city planning commission has taken the matter of lifting drilling restrictions under advisement, following a general hearing late last week. The commission announced its determination to

(Continued on Page 144)

High Spots in Field News

KANSAS

Kansas operations handicapped by deep snows. Discussing conservation in new Voshel Pool.

NORTH TEXAS AND PANHANDLE

Weather aids proration movement in Panhandle and Wichita Falls districts. Gray County proration decreases output.

SOUTHWEST TEXAS

Shipments from Darst Creek in December 149,420 bbls. against 38,640 bbls. in November. Thirty-nine tests drilling or rigged up.

GULF COAST

Deep sand area at Refugio extended a mile. Deep producer at Barbers Hill increases flow. Good wells south of Humble and at Pierce Junction. Wildcat at Bayou Blue.

OKLAHOMA

New wells in East Earlsboro send Oklahoma production up to 706,000 bbls. Potential production in Oklahoma City Pool has increased, highest estimate 571,000 bbls. daily and lowest 475,000 bbls.

ROCKY MOUNTAIN AREA

Two Lea Pool wells in New Mexico pumping average of 1,200 bbls. a day. Well gauging 990 bbls. in Eunice district may open new pool.

Wyoming has three completions in the Tensleep formation.

NORTH LOUISIANA-ARKANSAS

Well between El Dorado East Field and Urbana attracting notice. Another east of Champagnolle interesting operators.

Deeper horizon tapped in Sarepta district of Webster Parish.

CALIFORNIA

Los Angeles City Planning Commission may lift drilling restrictions on Playa del Rey Field in Los Angeles Basin.

Curtailment plan may be extended 60 or 90 days. Additional development at Kettleman Hills not considered alarming.

WEST TEXAS

Best well yet completed in the Wheat Field, Loving County.

Well 1 mile north of Kermit strikes 30,000,000 feet of gas.

Ector County well drilling below 3,460 feet after slight showing of gas.

Yates Pool has surprise in test 3½ miles northwest of pool, completed for 300-bbl. well from 370 feet.

World's deepest well makes new record.

Intervening territory between two discovery wells in Taylor County considered promising.

SKELLY SELECTED TO AGAIN HEAD INTERNATIONAL OIL EXPOSITION

Directors of the International Petroleum Exposition and Congress re-elected all of their officers Tuesday at their annual meeting in Tulsa. The officers are W. G. Skelly, president; Frank Hinderliter, first vice president; Alf G. Heggem, second vice president; A. W. Leonard, treasurer; William Holden, secretary; and Victor Shenk, assistant secretary. William B. Way, general manager, had previously been selected to manage the next Exposition.

Members elected to the executive committee are Messrs. Skelly, Leonard, O. T. Dawson, D. D. Wertzberger, Hinderliter, Holden and Heggem. Mr. Leonard is chairman of the executive committee.

New directors elected are M. F. Waters of Hanlon-Waters, Inc., Tulsa; Wirt Franklin, Wirt Franklin Petroleum Corp., Ardmore; W. S. Fitzpatrick, Prairie Oil & Gas Co., Independence, Kans.; Roy Jones, Panhandle Oil Co., Wichita Falls, Tex.; F. D. Bostwick, Gilbert & Barker Co., Tulsa; S. A. Guiberson, Jr., Guiberson Corp., Los Angeles, Calif.; W. S. Farish, Humble Oil & Refining Co., Houston, Tex.; E. R. Brown, Magnolia Petroleum Corp., Dallas; P. M. Miskell, Empire Refineries, Inc., Tulsa; F. B. Parriott, Transcontinental Oil Co., Tulsa; E. J. Sadler, Standard Oil Co. (New Jersey); E. J. Bullock, Standard Oil Co. of Indiana; R. C. Holmes, The Texas Company, New York; Ernest Cornelius, Oklahoma Steel Castings Co.; T. B. Slick, independent oil operator, Oklahoma City, and Al Peake, Dixie Oil Co., Tulsa.

Directors who were re-elected are: Clyde Alexander, A. A. Beard, A. F. Bourne, W. M. Bovaird, J. H. Brooks, O. T. Dawson, R. E. Day, C. P. Dimit, Ray L. Dudley, George A. Dye, John M. Egan, J. P. Flanagan, H. V. Foster, Jacob France, Robert F. Garland, J. Burr Gibbons, Walter Gray, Henry Greis, R. A. Griffith, Brooks Gutelius, P. D. Hayes, J. M. Hayner, Alf G. Heggem, Frank Hinderliter, William Holden, B. E. Horrigan, Fred Insull, A. W. Leonard, Joe McGraw, D. F. McMahon, Walter Miller, Ernest Nicklos, Clyde Pape, J. Edgar Pew, Waite Phillips, Warren C. Platt, Ralph Pringle, Harry H. Rogers, R. C. Sharp, J. S. Sidwell, W. G. Skelly, Harry H. Smith, Victor H. Smith, O. C. Staples, D. D. Wertzberger, R. M. Young, J. H. Satterwhite, W. A. Schlueter, Frank R. Billingslea, T. R. Weymouth, E. B. Reeser and Harry J. Morlang.

William B. Way, general manager of the oil show, submitted a report on the progress which has been made on the proposed marketers and refiners exhibit building. The directors recommend that the structure, 60 by 240 feet, be ready for use October 4-11, the dates of the 1930 oil show.

A.P.I. WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks—for the week ending January 11 follows:

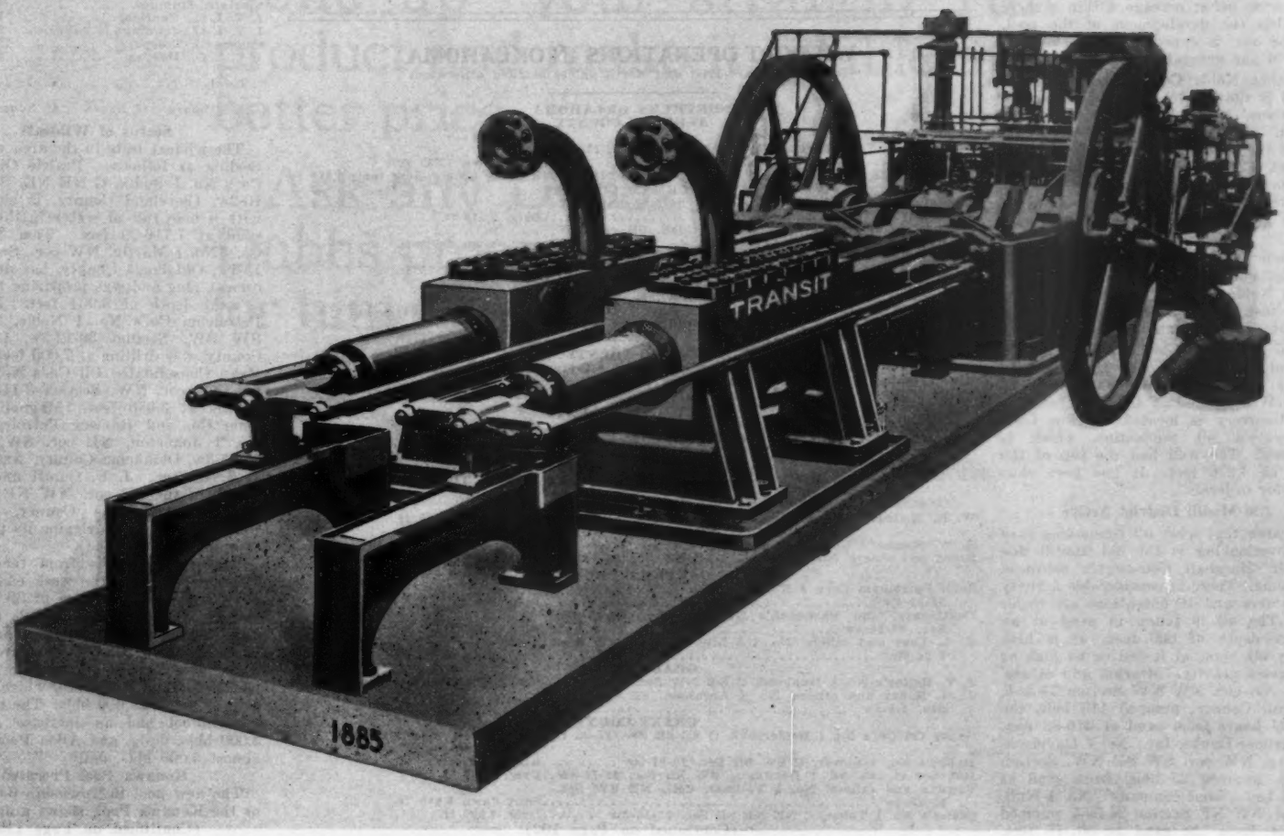
	(1)	(2)	(3)	(4)
East Coast	100.0	3,194,400	6,359,000	7,626,000
Appalachian	91.8	529,700	1,333,000	806,000
Indiana, Illinois, Kentucky	98.6	2,170,100	5,784,000	3,528,000
Oklahoma, Kansas, Missouri	88.6	2,060,000	3,731,000	3,192,000
Texas	90.7	3,827,300	7,139,000	13,073,000
Louisiana and Arkansas	96.8	1,149,800	2,357,000	4,526,000
Rocky Mountain	93.0	377,800	2,307,000	1,016,000
California	99.3	4,210,400	14,731,000	110,284,000
Total United States	95.5	17,519,500	43,741,000	144,051,000
Texas Gulf Coast	100.0	3,055,800	6,142,000	10,263,000
Louisiana Gulf Coast	100.0	709,500	2,059,000	3,691,000

(1) Per cent refinery capacity represented. (2) Crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.

TRANSIT

The TRANSIT Cross Compound Crank and Flywheel Hot Oil Pump is so ideal that it bids fair to become very popular for hot oil pumping.

NATIONAL TRANSIT Pump & Machine Co.
Oil City, Pa.



Big Increase in Oklahoma Production

Crude Output Jumps to 706,000 Bbls. for Which New Wells in East Earlsboro Were Mainly Responsible. Enormous Potential

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

The crude oil production of Oklahoma shows an increase of approximately 31,000 bbls. over the previous week. The total estimated daily production for the week ending January 11 was 706,000 bbls. Part of the increase is in the East Earlsboro Pool, which increased almost 23,000 bbls. daily over the preceding week.

Potential production of the Oklahoma City Pool has increased, but there is a wide difference of opinion as to what the estimated potention production for one day might be. The highest estimate places it at 571,000 bbls.; the lowest, 475,000 bbls. The largest potential figure has been arrived at by estimating the 24-hour gauges of wells that have only produced for a few hours, and by using the total production of the wells now shut in for proration, and adding the present daily production of the class "A" and "B" producing wells. Others estimate the daily production of the "A" and "B" wells at 186,000 bbls. daily, if allowed to produce wide open, and by adding the amount of production the wells now shut in for proration, have produced in 24 hours or less, which totals 314,000 bbls., arrived at an estimated total potential of 500,000 bbls. for a single day.

Magnolia Petroleum Co.'s No. 1 Young, NE cor. NW NW Section 22-21-2w, Noble County, increased its production by deeper drilling. This wildcat had a sand, which may be the Wilcox or the Misener, at 5,100-05 feet. It made 1,390 bbls. on the gauge of January 10, and the next day made 900 bbls. in 12 hours. Magnolia Petroleum Co. may announce a new location on offset acreage within a short time, but the development of the pool, if it be one, is expected to be slow because of the general oil situation.

Another Noble County wildcat showing oil is the Peerless Oil Producing Co. and others' No. 1 Wentz, NW cor. SW Section 22-22-1, near Otoe, is expected to test the showing found in the Layton sand at 3,283-3,300 feet. It flowed 300 bbls. before the casing was landed and cemented. The well may be a pool opener and it should be completed in the next week.

Prairie Oil & Gas Co. and others' No. 1 Bergstrom, SE cor. NW Section 28-22-1w, Noble County, is moving in a rig for a test, which has been delayed on account of bad weather conditions.

Shell Petroleum Corp.'s No. 1 Pharris, NE cor. NW Section 21-13-6, Lincoln County, a wildcat, found 400 feet of oil in the Wilcox sand at 4,293-95 feet. The new discovery is located 3 miles from the nearest oil production which is northeast. The well had the top of the Viola at 4,276 feet. It has been shut down for orders.

Old Madill District Active

An area that most oil companies have been overlooking is the old Madill district in Marshall County, in southern Oklahoma. There is considerable activity in the area and 16 operations are under way. The oil is found in sand at an average depth of 600 feet. It is high gravity oil, some of it testing as high as 42 degrees gravity. Merrick and others' No. 9, NE cor. NW NW Section 24-5s-5, Marshall County, pumped 110 bbls. the first 24 hours from sand at 610-32 feet. Westheimer-Daube, Inc., No. 1 Davidson-Sullivan, NW cor. SW SE NW, Section 30-5s-5, pumped 25 bbls. from sand at 549-57 feet. Same company's No. 1 Null, NE cor. SW NE Section 24-5s-5, pumped 15 bbls. from the sand at 567-70 feet. The other tests were drilling and landing casing.

A new test in the Palacine area in Stephens County is showing oil. Wirt Franklin Petroleum Corp.'s No. 2 Spain, SW cor. NW Section 9-2s-6w, found a showing of oil and gas at 3,156-63 feet. Casing is being landed and it will be cemented preparatory to testing the oil showing. Same company's No. 1 Green, NW cor. SW NW Section 9-2s-6w, a recent completion, is making 250 bbls. daily. Magnolia Petroleum Co.'s No. 1 P. Andreas, NE cor. SE NE Section 8-2s-6w, was drilling at 3,302 feet, after mudding off gas at 3,259-67 feet.

Operations in the Oklahoma City Field have been delayed during the week by stormy weather conditions. Tom Slick Oil Co. has added to its lease holdings by buying a half interest in the NE quarter Section 32-11-2w from the Cal-Cul Oil Co. of Okmulgee for a reported consideration of $100,000. One-half the price was paid in cash and half is to be paid in oil produced from the lease. Tom Slick Oil Co. will handle all drilling operations and the Cal-Cul Oil Co.'s part will be paid from the revenues of the oil. The nearest operation to the lease is the Tom Slick Oil Co. and others' Hussman, in the SW quarter of Section 29-11-2w.

To Drill in City Limits

The first permit to drill inside the city limits of Oklahoma City was issued to Hall & Briscoe. The location is in the SE cor. NE NE Section 15-11-3w. The rig is up and rotary tools were moving in. Development of the area will depend upon the outcome of the same company's No. 1 Holmes, in Section 10-11-3w, which has reached a total depth of 4,750 feet.

On the east side of the Oklahoma City Pool Tom Slick Oil Co.'s No. 1 Banta, SE cor. SW NE Section 18-11-2w, had a show of oil while bailing and swabbing at a total depth of 6,530 feet. The showing of oil was found after the hole had been bailed down 5,000 feet, from the top. Some express the opinion the formations in the test were running low.

Indian Territory Illuminating Oil Co. and others' No. 1 Mackey, NE cor. Section 26-11-3w, on the southwest edge of the Oklahoma City Pool, swabbed 97 bbls. of oil in 16 hours from a total depth of 6,443 feet. Same company's No. 1 Peterson, NE cor. SW Section 25-11-3w, was drilled deeper to a total depth of 6,423 feet, and production increased to 1,436 bbls. in 24 hours.

The shallow sand will be tested in the Indian Territory Illuminating Oil Co.'s No. 3 Unsell-Krager, SE cor. NE NE Section 23-11-3w. The well had a showing of oil at 5,555-59 feet, and made 25,000,000 feet of gas.

Deeper Drilling

Several wells that have been completed and were shut in are now rigging up to drill deeper. Older wells that have been producing for months are in the process of being drilled deeper. Sinclair Oil & Gas Co.'s No. 1 School Land, NE cor., Section 36-11-3w, is rigging up rotary tools at a total depth of 6,410 feet, to deepen. Same company's No. 1 Kinter, NW cor. SE, Section 30-11-2w, has mudded off the gas and is preparing to deepen, total depth 6,235 feet. Same company's No. 2 Kinter, SW cor. SE, Section 30-11-2w, is moving in rotary tools to deepen at a total depth of 6,355 feet. Coline Oil Co.'s No. 1 Olds, C SE NW, Section 24-11-3w, the third well completed in the pool has been deepened from 6,320 feet to 6,328 feet, and was still drilling. Same company's No. 3 Olds, NW cor., Section 24-11-3w, was rigging up to drill deeper at a total depth of 6,427 feet.

Indian Territory Illuminating Oil Co.'s No. 1 Mackey, NE cor., Section 26-11-3w, is drilling deeper after failing to make a producer at a total depth of 6,443 feet in Detrital sand. A showing of oil was found and some oil has been swabbed. Same company's No. 1 Watters, NE cor. NW NE, Section 25-11-3w, a former "gasoline" well, has been drilling deeper and reached a total depth of 6,662 feet in lime with a showing of oil and gas which will be tested.

Shut-in Production

The initial production of the shut-in wells completed in the Oklahoma City Pool, and as yet allowed to produce only 24 hours or less is 314,018 bbls. Some new wells were added to the total during the week. The initial production of each well was as follows:

Company, lease—	Wells	Bbls.
Coline, Olds	2	4,689
I. T. I. O., Emerson-Joyce	1	100
I. T. I. O., N. Emerson	1	875
Mid-Kansas, Fortson	4	3,242
Mid-Kansas, Fortson	5	6,256
Mid-Kansas, Mollman	1	1,476
Sinclair, School Land	1	6,683
I. T. I. O., Fortson-Farley	2	42,584
I. T. I. O., Watters	2	1,420
Shell, Petty	5	65
I. T. I. O., Trosper	3	8,620
Shell, Petty	4	700
Sinclair, Stamper	6	2,500
I. T. I. O., Verne	1	154
I. T. I. O., Verne	2	30,833
Skelly, Hoopes	1	32,037
I. T. I. O., Speegle	1	1,298
Coline, Warren	2	25,454
Slick, Zerkerle	1	24,062
I. T. I. O., Peterson	1	1,025
I. T. I. O., E. Fortson	1	14,697
I. T. I. O., Wheeler	1	6,747
I. T. I. O., N. Emerson	2	2,750
I. T. I. O., Jennings	1	23,285
Prairie, Hiddleston	4	15,815
Coline, Warren	1	*2,750
I. T. I. O., Johnson	2	946
I. T. I. O., Wheeler	2	†5,913
Shell, Petty	6	3,444
Sinclair, Stamper	4	690
I. T. I. O., Canfield	1	16,948
I. T. I. O., Jennings	3	18,307
Cromwell, Trosper	11	‡7,653
I. T. I. O., Mackey	1	97
Total	34	314,115

*2½ hours. †5 hours. ‡18 hours.

Status of Wildcats

The wildcat tests in the area were proceeding as follows: Prairie Oil & Gas Co.'s No. 1 Sudik, C NE NE, Section 8-10-2w, Cleveland County, is shut down with a hole full of water in the Wilcox sand at 7,716-20 feet. Tom Slick Oil Co.'s No. 1 Martin, NW cor., Section 13-13-1w, Oklahoma County, has drilled out cement plug and was preparing to bail at a total depth of 6,964 feet. Magnolia Petroleum Co.'s No. 1 Noble, NW cor. SW SW, Section 30-12-2w, Oklahoma County, was drilling at 7,000 feet in lime. Ryan Consolidated Oil Co.'s No. 1 Lawton, NE cor. NW, Section 3-11-2w, was fishing at 3,680 feet. Magnolia Petroleum Co. and Ramsey Petroleum Co.'s No. 1 Johnston, NE cor. SW, Section 35-13-3w, Oklahoma County, was drilling at 3,842 feet. J. F. Cuniff and others' No. 1 in the SE cor. NW NE, Section 17-12-4w, Oklahoma County, west of Oklahoma City, was rigging up preparing to spud.

Production reports from the Greater Seminole area for the week ending January 8 show an increase of 39,782 bbls. per day and an increase of 28 oil wells. This increase brings the total production of the area to 333,606 bbls. from 2,565 wells. The largest increase in any one pool is in East Earlsboro, which shows a gain of about 23,000 bbls. The old Little River Pool had an increase of about 5,000 bbls. daily, and Allen Pool was up almost 5,000 bbls. daily.

Konawa Pool Prorated

The new pool in Township 6-6, known as the Konawa Pool, shows a daily aver-

(Continued on Page 119)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location— Remarks:

Smith Bros.' No. 1 Forbes, SE cor. NW NW, Sec. 12-27-11w ..... Shut down 1,232 ft.

J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w .. Rigging up standtrd tools 4,660 ft.

BECKHAM COUNTY

Kay and others' No. 1 Martin, C E half E half NW Sec. 32-8-24w ..... Drlg. 2,310 ft.

Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w ..... Shut down 2,402 ft.

Carson and others' No. 1 Danby, SW cor. SE NE Sec. 20-8-22w ..... Shut down 1,575 ft.

BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w ..... Spudded and shut down.

Washoma Oil Co. and others' No. 1 Phillips, C NW SW Sec. 12-19-10w ..... Shut down 2,935 ft.

CADDO COUNTY

Abernathy & Brown's No. 1 Horton, SE cor. Sec. 8-6-13w. Shut down 525 ft.

W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1 ..... Rig.

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w ..... Shut down 3,130 ft.

Phillips Pet. and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w ..... Wilcox 7,716-20 ft.; water; shut down.

COAL COUNTY

W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e .... Shut down 1,235 ft.

COMANCHE COUNTY

G. W. Stegner's No. 1 Doebel, C SW SW Sec. 3-3-9w .... Rig.

Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w.. Shut down 4,055 ft.

GARFIELD COUNTY

Shell Petroleum Corp.'s No. 1 Loomis, C NW NW Sec. 32-23-4w ..... Drlg. 200 ft.

Continental and Barnsdall's No. 1 Brown, CNL SW Sec. 10-20-4w ..... Drlg. 4,200 ft.

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w ..... Shut down 5,566 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w.... Spudded and shut down.

J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w ..... Rig.

GRANT COUNTY

Gypsy Oil Co.'s No. 1 Belderbeck, C SE SE Sec. 27-28-7w. Rigging up standard tools 5,081 ft.; 8-in. csg.

Bailey's No. 1 Stover, C SW SE Sec. 20-27-5w ..... Rig on ground.

Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4w.. Drlg. 4,700 ft.

Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w ..... Shut down 5,640 ft.

Otstot's No. 1 Tabor, C NE NE SE Sec. 23-26-3w ..... Drlg. 2,900 ft.

(Continued on Page 162)

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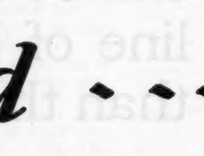

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Deep Snow Slows Up Kansas Fields

Few New Wells Reported and Production Was Practically Unchanged. Operators Discuss Conservation in New Pool

By W. A. Spinney
Staff Correspondent, Kansas Fields

One of the worst snow storms in years hit Kansas last week and slowed up development work in every part of the State. As a result few new wells were reported.

The most important oil news out of Kansas in the week in review was the failure of Voshel Pool operators to unanimously agree to a plan of curtailment in that pool after the present plan expires on February 15. Most of the operators, in session on January 10 in Wichita, favored a continuance of the present plan until March 31 but the Derby Oil & Refining Co. and the E. W. Marland, Inc. advanced other plans. The meeting adjourned after 17 of the 19 companies present voted to continue the present plan until March 15 and a committee was instructed to make a further attempt to induce the Derby and Marland companies to agree to this plan in order to make it effective.

There was very little change in the average daily production for the week ending Saturday, January 11, as compared with that of the previous week.

Another oil showing has been found in Trego County, Kansas, Producers & Refiners Corp.'s No. 1 Kingsley, C SE NW NW, Section 24-14-21w, encountering a showing of oil at 3,940-41 feet. The wildcat test was immediately shut down until better weather conditions prevail. Hopes of opening a new oil pool in the county were bright. The well is located 10 miles southeast of the Commercial Oil Co.'s well in Section 20-13-21w, which is still pumping about 30 bbls. daily. The new well is only a half mile west of the Trego-Ellis county line.

Forty-four new operations were reported from Kansas oil fields last week. McPherson County led with 23 new operations, Greenwood County has 6, Butler County 4, Cowley County 3, Sedgwick County 3, Woodson County 2, Coffey County 2, and Sumner County 1.

Sinclair Oil & Gas Co.'s No. 2 Voshel, SW cor. NW, Section 10-21-3w, McPherson County, is expected to be the next test to reach the Wilcox sand in the Voshel Pool. It was landing the 5-inch casing at 3,314 feet, the top of the Viola lime.

The Wilcox sand discovery well in the Voshel Pool, the Derby Oil & Refining Co.'s No. 1 Stuckey, NE cor. SE, Section 9-21-3w, has been deepened 4 feet, and increased its production to approximately 1,600 bbls. daily. The total depth of the well is now 3,329 feet, and it made 795 bbls. in 12 hours on a test. It formerly was making around 1,200 bbls. daily before being pinched in to 50 bbls. daily on account of proration.

The Voshel and Ritz Pools in McPherson County have a combined estimated potential production of about 14,000 bbls. daily. Under the present proration the pools combined are making about 3,900 bbls. daily. The Voshel Pool is making about 330 bbls. daily, with a potential of 6,800 bbls. daily. The Ritz Pool is making around 3,600 bbls. daily with a potential of about 7,500 bbls. daily.

Operations in Kansas during the last week have been slow owing to deep snow and generally bad weather.

Deeper Pay in Northern Elk

Southern Greenwood and northern Elk Counties are receiving considerable attention from oil operators at the present time. Activity in leasing and blocking is increasing. The area is attractive to the operator as it has several different producing horizons, but the new Wilcox sand well in Section 9-29-9, Elk County, is principally responsible for the renewed interest in the area. The discovery well has been pumping around 70 bbls. daily, from the Wilcox sand at a total depth of 2,641 feet. It may be drilled deeper. A south offset has been moved in and is expected to be started in a few days. Another interesting deep test is to be drilled a short distance south of Severy, NE cor., Section 18-28-11, Elk County. This test is expected to be drilled to the granite, generally found at 3,000 feet, in this area, if it fails to find production at higher levels.

Elk County has 10 operations. One of these found a shallow pay sand which may result in considerable new drilling. Ramsey, Hunt & Co.'s No. 1 Denton, NW cor. NE NW, Section 10-31-8, is estimated to be a 50-bbl. well, at 1,658-71 feet. It is a new sand for the Grenola area, and is about 250 feet above the Kansas City lime. The well is located half a mile south of the old Kansas City lime pool in Section 3-31-8. Goss and others' No. 1, in Section 10-31-10, Elk County, has been deepened to the Silicious lime and abandoned at 2,388 feet. The test was drilled deeper after failing to find oil in the top of the lime.

Arkansas Fuel Oil Co. may drill a deep test in the old gas area which centers around Section 17-29-10, Elk County.

Greenwood County

Blackwell Oil & Gas Co. has resumed operations at its No. 1 Stewart, in Section 19-28-11, Greenwood County. The test may be drilled to the Wilcox sand. It has had several showings of oil and gas in the shallow sands. McBride, Inc., may drill a test well to the Wilcox sand in the NE cor., Section 10-28-11, Greenwood County. The Clark estate is preparing to deepen its No. 1 Davis, SW cor. NE, Section 8-28-11, Greenwood County, to the Wilcox sand from its present depth of 1,230 feet. The well has been producing for eight years at 1,230 feet. A location west, the same operators' No. 2 Davis is a small well in the Wilcox sand at a total depth of 2,230 feet.

Simmons and others' No. 1 B. Ellis, NW cor. NE NW, Section 27-33-11, Greenwood County, near the south end of the Seeley Pool, swabbed 225 bbls. in 18 hours from the Bartlesville sand. Dixie Oil Co. and Amerada Petroleum Corp.'s No. 4 Ellis, SE cor. NW NW, Section 27-33-11, Greenwood County, swabbed 180 bbls. the first 24 hours from the Bartlesville sand at 1,884-1,929 feet, after a 160-quart shot. The well made 150 bbls. the second 24 hours.

New Test in Russell County

Empire Oil & Refining Co. has announced a new location in the SW cor. NW NW, Section 24-15-14w, Russell County. The new location is an offset to the Prairie Oil & Gas Co.'s No. 1 Ochs. It was a wildcat well which was completed last November for 150 bbls.

Phillips Petroleum Co. has what appears to be a dry hole in Ellis County. The test is No. 1 Idler, NW cor., Section 20-12-17w, and was drilling at 3,810 feet, with nothing showing. It is located northeast of Hays, the county seat. The well is the east offset to the same company's No. 1 Weigel, NW cor., Section 19-12-17w, which has been making around 175 bbls. daily, at 3,680 feet. The Weigel well is about 3 miles southwest of the same company's No. 1 Shutts, the discovery well in the district northeast of Hays. Phillips Petroleum Co. has made a location for its No. 1 Schmedler, SE cor., Section 18-12-17w, Ellis County, which is the north offset to the producing well in Section 19-12-17w.

Tests Abandoned in Harvey County

Jolly & Ogg have abandoned two wildcat tests in Harvey County, which have been shut down for several months. One was No. 1 Randall, NE cor., Section 11-24-1w, abandoned at 3,444 feet. The other was No. 1 Hupp, SE cor. NE, Section 22-23-1w, abandoned at 3,220 feet. Independent Oil & Gas Co. and Reserve Oil Co.'s No. 1 Moulds, C NE, Section 7-24-1w, another Harvey County wildcat, was also abandoned at 3,815 feet. In the southeast corner of the county, E. W. Marland, Inc.'s No. 1 Chambers, Section 8-24-2, found a hole full of water in the chat at 2,975-90 feet, and was drilling at 3,150 feet.

Wildcatting in Cowley

In the northern part of Cowley County, Prairie Oil & Gas Co.'s test in the SW cor. SE, Section 4-30-5, had the base of the Mississippi lime at 3,250 feet and was drilling deeper at 3,300 feet. It was expected to reach the Wilcox sand in a few days. Roth & Farout's No. 1 Thompson, NE cor. SE, Section 31-31-8, Cowley County, a wildcat in the eastern part of the county, has swabbed 80 bbls. from the pay at 1,975-91 feet. The well is shut down at a total depth of 2,004 feet. North of Winfield, the wildcat test of Fine and others' No. 1 Brown, SE cor., Section 8-32-4, Cowley County, is expected to resume drilling as soon as the rig has been repaired. The test has been shut down at 1,660 feet. In the Winfield Pool, directly north of town, two tests were drilling. The Century Oil Co.'s No. 1 Cavit, in Section 19-32-4, was drilling at 2,225 feet. J. A. Hull Co.'s No. 6 Wallace, in Section 24-32-4, was drilling at 800 feet.

Field Work in Butler County

In Butler County, the Empire Oil & Refining Co.'s No. 13 Cranston, NE cor. SE, Section 22-27-5, is shut down at 2,400 feet, with the 8-inch casing landed and waiting for cement to set. This is the only test drilling in the Haverhill Pool, which is almost exclusively owned by the above company. North of Leon, Phillips Petroleum Co.'s No. 5 Tatum, SE cor. NE NW, Section 9-27-6, in the Shaffer Pool, Butler County, was drilling at 3,050 feet. It had a small showing in the top of the lime which was passed by to test the Wilcox sand horizon.

The new well of the Southbrook Oil Co., No. 1 Joseph, in Section 25-24-3, Butler County, in the Potwin district, in northwestern part of the county, pumped 150 bbls. in 15 hours and was averaging 5 bbls. an hour. The oil is believed to be coming from the Burgess sand. J. G. Durham is starting a wildcat test in the southern part of the county, in the SW cor. SE SE, Section 16-29-4, Butler County, east of Douglass. Sanford and others' No. 1 in Section 12-28-5, Butler County, north of the Fox-Bush Pool, was drilling at 500 feet.

In Western Counties

Reno County is becoming an active wildcatting area in the south-central part of the State. Seven tests are drilling in the county at the present time. Wilcox Oil & Gas Co.'s No. 1 McPheeters, SW cor. NW, Section 22-26-8w, Reno County, had a showing of oil at 3,384 feet.

In Ford County the Swain Oil Co. and others' No. 1 Kenthorne, C NW, Section 21-25-24w, has resumed drilling. The test is landing 15-inch casing at 415 feet. It is the only test drilling northeast of Dodge City, in the county. The company owns a large block of leases surrounding the test, on which several structures have been located.

Sedgwick Developments

Another well has been added to the Valley Center Pool in Sedgwick County, bringing the total of completed wells in that pool to 112. The new well is the Continental Oil Co. and Gypsy Oil Co.'s No. 4 Lyon, NE cor. NW SW, Section 7-26-1. The well swabbed about 30 bbls. an hour for a 12-hour period from the Simpson at 3,351-54 feet.

In the southwestern part of Sedgwick County, near Cheney, Continental Oil Co.'s No. 1 Senstroth, in Section 25-28-4w, had water in the Wilcox sand at 4,203 feet. The test was drilling deeper carrying a hole full of water at 4,226 feet. The test had the top of the Viola

(Continued on Page 118)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

Company, farm and location—	Remarks:
BARBER COUNTY	
Skelly Oil Co.'s No. 1 Temple Ranch, Sec. 13-34-15w	Shut down 4,463 ft.
Robertson et al's No. 1 Powell, SE cor. SE Sec. 11-32-10w	Total depth 3,650 ft.; 5,000,000 ft. gas; landing 8-in. csg.
BARTON COUNTY	
Prairie's No. 1 Davidson, NW SE Sec. 4-16-11w	Rig on ground.
Allison & Fitzwilliams' No. 1 Brodie, NE cor. Sec. 19-16-12w	Drlg. 3,430 ft.
Slick et al's No. 1 Sweeney, SW NE Sec. 13-17-11w	Shut down 3,110 ft.
Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w	Shut down 3,948 ft.
BUTLER COUNTY	
Shell Petroleum Corp.'s No. 1 Harper, SW NE Sec. 35-26-3	Drlg. 400 ft.
Lario O. & G. Co.'s No. 1 Miller, NE SE NE Sec. 36-26-3	Drlg. 3,085 ft.
Martin et al's No. 1 Flanigan, C SW SE SW Sec. 29-27-3	Shut down 1,930 ft.
Stroub & Dutton's No. 1 Kirby, SE SW Sec. 12-28-3	Shut down 2,983 ft.
Valley Osage's No. 1 Sira, SE cor. Sec. 34-23-3	Shut down 2,600 ft.
CHASE COUNTY	
Steinbuckel et al's No. 1 Stephenson, NE SW Sec. 4-20-6	Drlg. 500 ft.
Steinbuckel et al's No. 1 Cook, SE cor. Sec. 31-19-8	Drlg. 900 ft.
Empire's No. 1 Newman, SE NE Sec. 24-20-9	Drlg. 2,175 ft.
E. W. Marland, Inc.'s No. 1 Altemus, SE NE Sec. 33-18-6	Drlg. 2,550 ft.
CLAY COUNTY	
Chrisler et al's No. 1 Tivier, SW cor. Sec. 19-8-3	Shut down 50 ft.
Derby Oil Co.'s No. 1 Meimueller, C NW SW Sec. 9-10-3e	Total depth 3,110 ft.; water.
COWLEY COUNTY	
Edenfield & Fair's No. 1 Wallace, CWL NE Sec. 17-34-4	Shut down 365-75 ft.; 2,000,000 ft. gas.
Fine et al's No. 1 Brown, SE cor. Sec. 8-32-4	Drlg. 1,520 ft.
Prairie's No. 1 Leighty No. 1 Bail, SW SE Sec. 4-30-5	Drlg. 2,540 ft.
Milton & Mead's No. 1 Tatum, SE cor. SW Sec. 11-31-6	Shut down 1,920 ft.
Roth & Farout's No. 1 Thompson, NE SE Sec. 31-31-8	Show oil 1,975-91 ft.; total depth 2,004 ft.; swab. 80 bbls.; shut down.
DICKINSON COUNTY	
Cress' No. 1 Sanden, NE cor. Sec. 12-15-2	Rig.
Prairie's No. 1 Lachard, C NW SW NE Sec. 12-16-2	Drlg. 1,470 ft.
Hiatt & Durham's No. 1 Wendt, NW cor. Sec. 17-16-2	Spudding.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4	Drlg. 2,390-2,400 ft.; water.

(Continued on Page 158)

Arkansas Wells Attracting Attention

One Between El Dorado East Field and Urbana, Another East of Champagnolle. Semiwildcat in Richland. Deep Horizon in Webster

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Jan. 11.—The scene shifted, somewhat, from Zwolle this week. Joe Modisette and others made a well that pumped 120 bbls. of fluid, 7 per cent water, the first 35 hours, of No. 2 Union Saw Mill in Section 14-18-14, about half way between El Dorado East Field production and the Urbana excitement of 1926-27. Total depth was 2,235 feet. As a result there is a little mild trading for protection of which two instances have come to light. Simms Oil Co. and the Sun Co. paid $200 cash and $300 out of first oil for the 10 acres comprising the N half of N half of SE SE, Section 9-18-13, and Clark Sample paid $300 cash and $100 out of first oil for the N half of N half SE NW, Section 15-18-13. Marine Oil Co. has what looks to be a much better well in No. 3-A Thompson in Section 10-18-13, 3 miles east of production in the eastern extension of Champagnolle. A drill stem test of 7 feet of sand, total depth 3,535 feet, developed 16 fourbles of 21.7 gravity oil in the 6 minutes the tester was open, and 8⅛-inch pipe was cemented at 3,522 feet for bailing test. Most of the surrounding acreage is held under old leases, but Artex Oil Co. bought the E half of W half of NE NE, Section 9-18-13 for $500 and Lion Oil & Refining Co. bought the SW SW, Section 10, and the SE NE, Section 9-18-13, for $500 and the SW SW, Section 3-18-13, for $250 cash and $250 oil—considerable excitement for Arkansas the way things have been running in that part of the division for the last few months.

LOUISIANA

Attention to what is going on in Zwolle centered on Olsan Brothers' No. 1 Keelan, Section 27-8-12, 1 mile north of the "discovery" well. Following the drill stem test at 2,428 feet last week, the well was bailed early this week and was dry again. Left over night it bailed a couple of gallons of water and about a quart of oil from 2,432 feet, and it was decided to make a little more hole. But when the pumps were started and returns showed in the ditch there was so much better show of oil that it was decided to come out and bail, let it stand over night, and repeat the performance until it is definitely proven whether there is sufficient behind whatever oil there may be in the chalk at this depth to make a producer, natural or on the pump. This is the procedure recommended by H. D. Easton and R. L. Gay, the "Daddies" of the Zwolle district and by which Gay's last well in the Blue Lake area was made a producer after it looked like a dry hole. One new location in Zwolle was reported during the week, Amerada Petroleum Corp.'s No. 1 Bowman-Hicks in the NE NE, Section 33-8-12, half a mile northwest of the producer.

Richland Semiwildcat

Richland Parish had a semiwildcat, Industrial Gas Co.'s No. 1-A Jack Davidson in the SW cor. NE, Section 6-17-6, which didn't amount to much, producing through siphon with plenty of water from 2,470 feet. The same organization's No. 1 Boughton in Section 1-16-6 was a considerably better well, gauging 43,967,000 feet of gas from 2,388 feet, about 60 feet higher than the average Richland well. Palmer Corp. made a 1,000,000-foot producer of No. 1 Eubanks, Section 26-17-6, at 2,445 feet. Drilled past the known horizon for the second deep test on the northwest corner of proven area, this well went to 3,118 feet without finding the deep gas Hope Producing Co. got at 2,900 feet and plugged back. The Hope well, No. 1 Eubanks, in Section 26-17-6, a quarter mile north, gauged 7,653,000 feet at 1,260 pounds, total depth 2,942 feet, and had tested dry at 2,450 feet. Several wells in proven and wildcat area of Richland were dry and others salty on drill stem tests in the 2,450-foot horizon and at deeper levels.

High water has "taken" Sam Hunter's deep test in Section 25-18-5, Ouachita Parish, until the winter floods recede. J. S. Herkness cemented 9-inch at 2,190 feet on No. 12 Bowles which, since the Magnolia Petroleum Co.'s two wells in the Second sand at around 2,360-80 feet, is to be made a deep test to 4,500 feet if necessary. New Process Co. cemented 8⅛-inch pipe at 2,190 feet on No. 2 Cole, a similar test in Section 35-20-4. Both wells are in about the center of the Monroe district.

Magnolia Petroleum Co. appears to have tapped a deeper horizon that may pay in the Sarepta district of Webster Parish, No. 1 J. P. Baker, Section 35-23-11, which showed for 7,000,000 feet of gas and a spray of oil on drill stem test at 3,054 feet, total depth 3,108 feet. It is an old well, deepened for the third time, second completion being a gasser. No. 1 McCook & Hibbler, the deepest hole yet drilled in north Louisiana-Arkansas territory cored 4 feet of sand at 6,987 feet after a salt water test with a little gas at 6,975-79 feet.

Carterville District

There wasn't anything in Carterville district of Bossier Parish during the week in the way of drilling development, but there were a few trades. Dixie Oil Co. bought 100 acres comprising the N half SE and S half SW NE, Section 27-23-12, for $100 an acre and The Texas Company bought the NE NE abandoned E half NW NE, Section 27-23-12, and the W half SE SE, Section 22-23-12, for $20 and the S half SE, Section 28-23-12, for $25 an acre. Meanwhile the big well—Muslow Oil Co.'s No. 1 Peyton, Section 30-23-11, which started off as a second completion at 3,127 feet with 510 bbls. natural, has declined 90 bbls. in 10 days—not to disparage or discourage the field and its development, but just to give the facts of the case. Two Bossier wildcats were wiped out when Corbett and others' No. 1 Murff, Section 18-17-11, was abandoned as a dry hole at 990 feet. It wasn't necessarily a dry hole nor a salt water test as it had been shut down since last May and hadn't been drilled deep enough to prove whether it would or would not have found gas or oil. In the case of G. G. Nesbit and others' No. 1 Leonard in Section 20-19-13, 9 miles north of Shreveport, it was not quite the same. Three weeks ago there was an excited rumor that the hole had showed for a producer at 2,547 feet but it turned out to be only another "Vanceville test." Many dollars have been put into holes in the Vanceville area that showed just enough to cause more dollars to be put in after them.

Benson Oil & Gas Co.'s No. 1 Harris, Section 6-10-13, DeSoto Parish, which had a show of gas at 3,078 feet, was dry when it came to testing, and is drilling at 3,145 feet, and No. 1 Hill, Section 4-10-13, is shut down for orders at 3,195 feet. Benedum & Trees Oil Co. has begun drilling No. 1 Johnson in Section 7-11-13, the well they were obligated to drill when they took over a 3,500-acre lease adjoining the old Spider district on

(Continued on Page 118)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

BOSSIER PARISH—BELLEVUE

Company, farm and location—	Remarks—
H. L. Morgan's No. 2 Wetherbee, 3,811 ft. E, 200 ft. S, NW cor., Sec. 28-19-11	Drlg. 2,590 ft.

BOSSIER PARISH—CARTERVILLE

Bahan & Bahan's No. 1 G. W. May, 660 ft. S, 660 ft. W, NE cor., Sec. 26-23-12	Location.
Del.-La. Dev. Co.'s No. 2 Bollinger, 200 ft. N, 200 ft. W, SE cor. NE NE, Sec. 31-23-11	Arranging to set 4½-in. 3,129 ft; hard sand rock.
Goodman-Johnson's No. 1 Martin, 330 ft. S, 330 ft. E, NW cor. SE, Sec. 26-23-12	Recmtd. 6⅝-in. 3,148 ft; T.D; S.L.M. 3,175 ft.
La. Pet. Corp.'s No. 2 J. W. Peyton, 1,170 ft. S, 150 ft. W, NE cor. SE, Sec. 25-23-12	Rigging up.
La. Pet. Corp.'s No. 3 Peyton, 660 ft. S, 150 ft. W, NE cor. SE, Sec. 25-23-12	Rigging up.
Palmer Corp.'s No. 4 Roberson, 660 ft. S, 660 ft. E, NW cor. NW NE, Sec. 26-23-12	Tested dry; 4-ft. sand; 3,100 ft; csg. 3,104 ft; fishing 350 ft; D.S. T.D. 3,130 ft.
Magnolia Pet. Co.'s No. 1 M. A. Rogers, 660 ft. S, 660 ft. W, NE cor. NE SE, Sec. 21-23-12	Cmtd. 5¾-in. 3,178 ft; T.D. 3,217 ft.
Muslow Oil Co.'s No. 1 Barnett, 1,320 ft. W, 660 ft. N, SE cor., Sec. 25-23-12	Cmtd. 6-in. 3,140 ft; 3-ft. sand 3,143 ft.
Muslow Oil Co.'s No. 1-B Kilgore, 3,050 ft. N, 1,930 ft. E, SW cor., Sec. 31-23-11	Waiting; fishing tools; T.D. 3,962 ft.
Muslow Oil Co.'s No. 1-C Kilgore, 2,080 ft. N, 1,980 ft. E, SW cor., Sec. 31-23-11	O.W.D.D; formerly Nat. Gas Prod. Co.'s No. 1 Kilgore; cored sand 3,130 ft; old T.D. 3,078 ft.
Muslow Oil Co.'s No. 1 Mark Myer, 1,980 ft. N, 330 ft. W, SE cor., Sec. 36-23-12	O.W.D.D; arranging to deepen; T.D. 3,088 ft.
Northwest La. Gas Co.'s No. 5 Bollinger, 252 ft. E, 200 ft. S, NW cor. Lot 7, Sec. 31, in Sec. 38-23-11	Rigging up.
Nat. Gas Prod. Co.'s No. 1 U. S. Govt., 660 ft. N, 660 ft. W, C, Sec. 31-23-11	Recmtd. 4½-in. 3,138 ft; swbng. and bailing 9-ft. sandy shale; T.D. 3,159 ft.
Palmer Corp.'s No. 4 Roberson, 660 ft. E, 660 ft. S, NW cor. NW NE, Sec. 26-23-12	O.W.D.D; fishing 350 ft; D.S; T.D. 3,130 ft; old T.D. 3,073 ft; D.S. test 4-ft. sand 3,100 ft; dry.
Sales & Walker's (Phillips Pet. Co.'s) No. 4 Bollinger, 696 ft. S, 1,120 ft. E NW cor. SW, Sec. 30-23-11	Began drlg Jan. 2; 10-in. 250 ft; drlg. 510 ft.
The Texas Co.'s No. 2 Peyton, 990 ft. N, 330 ft. W, SE cor., Sec. 25-23-12	Derrick.
The Texas Co.'s No. 3 Peyton, 990 ft. N, 990 ft. E,	

(Continued on Page 95)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA

BOSSIER PARISH

Company, farm and location—	Remarks—
Simon Goldman's No. 1 McFarlin, SE cor. SW, Sec. 7-19-13	Drlg. 1,670 ft.
Neil & Lanier's No. 1 Biedenharn, SE cor., Sec. 23-21-14	W.O.S.R.; 980 ft. oil in hole; T.D 998 ft.; arranging to re-test at 998 ft.
S. P. Lanier's No. 1 Le Rosen, 300 ft. S., 1,600 ft. W. NE cor. Sec. 26-21-14	Derrick.
Old River Oil Corp.'s No. 1 Byrd, 300 ft. E, 300 ft. S. NW cor., Sec. 14-19-14, formerly carried in Dixie district of Caddo Parish	W.O.S.R; 1,200 ft. oil; T.D. 2,472 ft.
Walker et als' No. 1 Antrim, NW cor. SE, Sec. 28-22-13	Tested dry; W.O. 3,184 ft.
C. L. West and others' No. 1 Sen:oil & Dickson, 2,310 ft. W, 895 ft. N, SE cor. Sec. 3-20-13	Began drlg. Jan. 2; cmtd. 10-in. 40 ft; drlg. 1,100 ft.

CADDO PARISH

R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE. Sec. 33-23-16	D.S. test 8-ft. sand; S.W.; arranging to deepen; T.D. 4,479 ft.
I. N. Pharis, trustee's No. 1 Oden, NE cor. SE NE. Sec. 16-19-14	S.D. 2,322 ft.; topped sand at 2,396 ft.; set 6⅝-in.; T.D. 2,409 ft.
Old River Oil Co.'s No. 1 Sibley, 300 ft. E, 300 ft. S. NW cor. SE, Sec. 15-19-14	W.O.S.R. 2,495 ft.
The Texas Co.'s No. 1 Henderson L. & T. Co., 990 ft. N, 450 ft. E, SW cor., Sec. 16-19-15	Derrick.
Woodley Pet. Co.'s No. 5-A Knight, 26,185 ft. E. 660 ft. N, SW cor. Township 16-12	Location.

CATAHOULA PARISH

Lochnager Pet. Co.'s No. 1 Taliaferro, 572 ft. E. 396 ft. S, C, Sec. 26-9-6	S.D. 900 ft.

CLAIBORNE PARISH

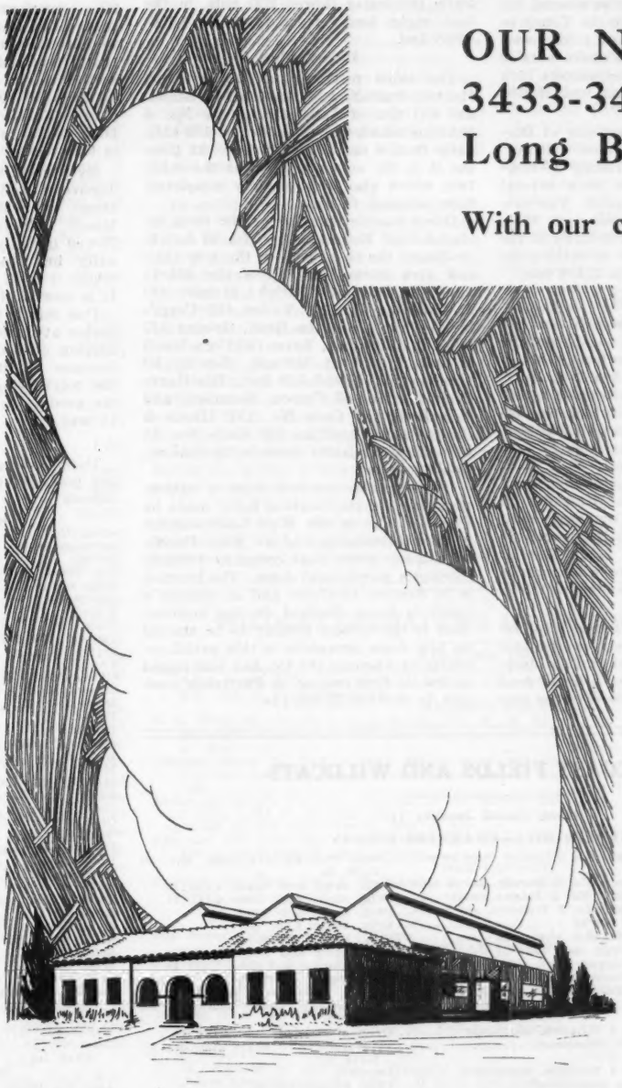
El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7	S.D. 2,240 ft.
Leue Oil Co.'s No. 1 Taylor, Sec. 16-22-6	Derrick.
Triangle Drlg Co.'s No. 1 Kilpatrick, 660 ft. S, 660 ft. E. NW cor. SW NE Sec. 7-19-5	Drlg. anhydrite 4,250 ft.

DE SOTO PARISH

Benedum & Trees Oil Co.'s No. 1 Johnson, 300 ft. S, 300 ft. W, NE cor., Sec. 7-11-13	Began drlg. Jan. 7.
Benson Oil Co.'s No. 1 Harris, Sec. 6-10-13	Tested dry 3,070 ft; drlg. 3,145 ft.
Benson Oil Co.'s No. 1 Hill, 1,845 ft. S, 1,200 ft. W, NE cor. Sec. 4-10-13	S.D; W.O. 3,195 ft.
Magnolia Pet. Co.'s No. 1 Anna Mason, 990 ft. S, 990 ft. E, NW cor. SW Sec. 27-12-11	Reaming to bottom; T.D. 3,252 ft
R. O. Roy's No. 1-B Farmer, 660 ft. S, 660 ft. E, NE SW, Sec. 8-13-13	Derrick.
R. O. Roy's No. 1-E Farmer, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 5-13-13	Drlg. 1,800 ft.

(Continued on Page 114)

ANNOUNCING—



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WEIGHT RECORDING, MEASUREMENT AND CONTROL

Deep Sand Area at Refugio Extended

Deep Producer at Barbers Hill Increases Flow. Good Wells South of Humble and at Pierce Junction. Bayou Blue Wildcat

By Nell Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Jan. 13.—Extension of deep sand production at Refugio over a mile, a substantial increase in the flow of Humphreys Corp.'s deep gusher on the northwest side of Barbers Hill, the completion of several additional good wells in the deep sand field south of Humble and at Pierce Junction, and another small wildcat producer on the new Bayou Blue Dome of Iberville Parish, Louisiana, were the chief developments in Gulf Coast Field operations the past week.

Union Producing Co. (Mission Drilling Co.) late in the week completed its No. 2 Mitchell at Refugio as the second deep sand oil producer in that field. This well is approximately 6,000 feet to the south and a little west of the same company's No. 1 O'Brien, the discovery well of the deep sands and until now the only producer. The two wells are producing from approximately the same level, No. 2 Mitchell being in the sand at 5,448-61 feet. It is flowing 21 bbls. an hour, or 524 bbls. daily, on two nine-thirty-seconds inch chokes. The high gas pressure has prevented opening the well any larger than it is but a decline in the pressure from the present 1,850 pounds is expected to boost the oil output favorably.

The deep sand wells at Refugio are some distance to the east of the main development at Refugio, where a substantial production has been built up from sands from 3,600 to 3,700 feet. Very little drilling had been done on this east side and no deep tests had been put down in any part of the Refugio Field until recently when Union Production Co., then known as the Mission Drilling Co., made a well in its No. 1 O'Brien in the 5,400-5,500-foot horizon. This company's new deep producer, No. 2 Mitchell, is approximately 200 feet west of No. 1, which made gas, and both the latter are in rank wildcat territory.

Other Operations

Union Producing Co.'s No. 2 Powers, which lies between the O'Brien property and the 3,600-3,700-foot field to the west, also is in the deep sand at 5,481-91 feet and may make an oil producer, although late in the week it was being completed as a gas well. With a pressure of 2,000 pounds and also on two nine-thirty-seconds inch chokes it was spraying some oil. A setback, however, was given the area when Independent Oil & Gas Co.'s No. 1 O'Brien, an offset to Union Producing Co.'s discovery well, failed to get the sand. It since has been drilled to a total depth of 6,489 feet, where the past week it tested salt water. The latter is the deepest ever drilled at Refugio and the finding of this sand which showed oil offers new possibilities for further deep exploration. The sand in Independent's test was topped at 6,484 feet.

The gradual building up of production at Refugio since the field was opened a year and a half ago has brought Refugio to a position of second largest producer of crude on the Gulf Coast, a place which it held for the first time the past week. Its daily average was 21,788 bbls., which was surpassed only by that of Barbers Hill, whose production was run up by Humphreys Corp.'s new deep gusher. Spindletop, which until recent weeks has maintained an unbroken record of being the Coast's biggest producing field, has dropped to below 20,000 bbls.

Barbers Hill

Humphreys Corp.'s No. 8-A Kirby, which blew in January 4 extending deep sand production to the northwest side of Barbers Hill, has held the center of interest all week. Flowing initially at the rate of 200 bbls. an hour, or 4,800 bbls. daily, on two three-eighths inch chokes, the well during the week increased its flow steadily, reaching as high as 10,260 bbls., which it made Friday with two 1-inch chokes outside the drill stem and a five-eighths inch choke from the drill stem. The well has been flowing continuously both through and from around the drill stem with a leak from the 7-inch to the 10-inch casing. Saturday the well was cut down to a 1-inch choke outside the drill stem and a three-quarters inch choke inside the drill stem and flowed 9,200 bbls.

The deep sand on the east side of Barbers Hill yielded only one new well during the week although drilling development is continuing active with several tests in or near the pay sand. The new well is Mills Bennett Production Co.'s No. 2 Collier which flowed initially at the rate of 912 bbls. daily of oil with some water from a total depth of 5,408 feet.

Humble Pool

The Texas Company brought in two more deep horizon wells on its prolific Dunman tract on the southeast side of Humble, these being Nos. 3 and 4. No. 2 Dunman so far has failed to make a well although late in the week tubing was being run. No. 3 Dunman gauged 749 bbls. of pipe line oil on two five-eighths inch chokes in the first 17 hours from 5,161 feet and No. 4 flowed 1,376 bbls. on a five-eighths inch choke the first day at 5,144 feet. The Texas Company's first well on this tract brought the tract into prominence when it was completed for 8,500 bbls. daily and later when opened for a short period made as high as 12,000 bbls. daily.

Navarro Oil Co. and Texas Exploration Co. added a good well on the east side of Pierce Junction when they deepened their No. 11 Dooley to a lower sand at 4,473 feet. The well flowed at the rate of 1,200 bbls. daily pipe line oil. These operators have been unusually successful in that area and on this lease have completed a string of good producers. Two wells also were added on the southwest side of the dome in Superior Oil Corp.'s No. 2 Herman and Saxet Oil Co.'s No. 6 Herman. The former flowed 50 bbls. of fluid, 4 per cent sediment and water, hourly from a sand at 4,704-4,809 feet, while the latter flowed 230 bbls. in the first eight hours from sand at 4,496-4,518 feet.

Bayou Blue

The third producer at Bayou Blue, Iberville Parish, was completed by Standard Oil Co. of Louisiana in its No. 4 Schwing which was estimated at 450 bbls. daily from a sand at 2,119 feet. At present it is the only producer, as the other two, which also were recently completed, have stopped flowing.

Other completions during the week included Gulf Refining Co.'s No. 18 Lutcher-Moore, the third well in the new shallow area opened on top of the Starks Dome of Calcasieu Parish; Humble Oil & Refining Co. and Valley Oil Corp.'s No. 4 Payne, Raccoon Bend, flowing 317 bbls. at 3,430 feet; Saxet Oil Co.'s No. 3 Holmes Heard at Refugio, flowing 50 bbls. net oil, 3,698-3,720 feet; Rio Bravo Oil Co.'s No. 86 Cotton, Saratoga, and Ada Belle Oil Co.'s No. 131 Hooks & Choate and Paraffine Oil Co.'s No. 84 Paraffine, the latter three being shallow, small pumpers.

Of particular interest from a wildcat standpoint is the location being made by Pure Oil Co. in the Wax Lake district in the southwest part of St. Mary Parish, Louisiana, where that company recently checked a geophysical dome. The location is in Section 12-17s-9e and at present a canal is being dredged to the location. This is the second wildcat to be started on new dome prospects in this parish recently as Vacuum Oil Co. has just rigged up for its first test on its Patterson prospect in Section 21-15s-11e.

After pumping for six months, the first and so far only producer on the Dog Lake Dome, one of the seven domes in southern Terrebonne Parish, Louisiana, discovered by The Texas Company, has been abandoned. The well was completed early last autumn from a shallow sand pumping 50 bbls. daily. So far three of the seven domes, including Dog Lake, have proved productive of oil. The other two, Lake Barre and Lake Pelto, still are on the productive list. Possibilities that a fourth dome will be productive are seen with the testing of a sand showing oil at 4,778-89 feet in The Texas Company's No. 1 State on the Bay Junop Dome. This well was drilling plug late in the week.

Rycade Oil Corp.'s No. 2 Atchafalaya, discovery well of the Bayou Bouillon Dome, St. Martin Parish, which in March, 1928, from a sand at 3,024-44 feet flowed initially at the rate of 4,000 bbls. daily, has been deepened to 5,529 feet, where it is in salt, topped at 5,516 feet. It is now shut down waiting orders.

Due chiefly to Humphreys Corp.'s deep gusher at Barbers Hill, daily average production of Gulf Coast fields showed an increase of 10,919 bbls. the past week, the total being 188,335 bbls. By fields the production for week ending January 11 was:

Production

Daily average production of the various pools in this area for the past week follows:

Southeast Texas	
Allen	10
Barbers Hill	22,050
Batson	1,278
Big Creek	5,874
Blue Ridge	2,022
Brenham	143
Boling	1,172
Clay Creek	1,950
Damon Mound	512
DeWalt	11,888
Fannett	1,963
Goose Creek	5,286
Hankamer	168
High Island	1,367
Hull	9,688
Humble	13,084
Jasper County	26
Lost Lake	785
Markham	365
Moss Bluff*	....
Nash	520
North Dayton	2,050
Orange	2,690
Orchard	77
Pierce Junction	12,405
Port Neches	3,038
Raccoon Bend	8,601
Refugio	21,788
Sheeks	692
Saratoga	995
Sour Lake	2,435
So. Liberty-So. Dayton	7,279
Spindletop	19,897
West Columbia	6,402
Total Southeast Texas	168,499
Week ending January 4	156,916
Increase	11,583

*Shut in.

South Louisiana	
Anse La Butte	45
Bayou Blue	119
Bayou Bouillon	80
Black Bayou	52
Edgerly	794
Jennings	2,430
Hackberry	3,694
Lake Barre	283
Lake Pelto	292
Lockport	3,318
New Iberia	10
Port Barre	295
Sorrento	120
Starks	696
Sulphur	3,100
Sweet Lake	22
Vinton	3,866
Welsh	243
White Castle	372
Total South Louisiana	19,836
Week ending January 4	20,500
Decrease	664
Total Gulf Coast	188,335
Week ending January 4	177,416
Increase	10,919

GULF COAST FIELDS AND WILDCATS

Week Ended January 11

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 2 Collier (southwest)..Comp. flowing 912 bbls. net oil 5,408 ft.
Mills Bennett Production Co.'s No. 2 Barber, north side..Drlg. sand and shale 4,065 ft.
Mills Pennett Production Co.'s No. 2 Means (east) .....Drlg. shale and lime 4,148 ft.
Mills Bennett Production Co.'s No. 2 Wilburn, southeast..Drlg. lime rock 4,863 ft.
Humphreys Corp.'s No. 2-C Kirby .....Drlg. shale 4,227 ft.
Humphreys Corp.'s No. 1 McLean, east side .....Drlg. lime 4,859 ft.
Humphreys Corp.'s No. 2 Ilfrey, east side .....Drlg. sand and boulders 1,500 ft.
Humphreys Corp.'s No. 1 Morgan .....Drlg. gumbo and lime 1,567 ft.
McAlbert Oil Co.'s No. 4 Woodward southeast .....Drlg. gumbo 2,603 ft.
Republic Production Co.'s No. 3 Kirby (southeast).....Rigging to pump 5,335 ft.
Sinclair Oil & Gas Co.'s No. 2 Wilburn, southeast .....Drlg. sandy shale showing oil 5,002 ft.
Sinclair Oil & Gas Co.'s No. 3 Wilburn, southeast .....Drlg. shale and lime 1,070 ft.
Sun Oil Co.'s No. 3 Wilburn, southeast .....Drlg. sand and shale showing oil 5,148 ft.
Sinclair Oil & Gas Co.'s No. 4 Wilburn, southeast .....Derrick.
Sun Oil Co.'s No. 4 Wilburn (southeast) .....Drlg. gumbo 657 ft.
Sun Oil Co.'s No. 2 J. Wilburn (southeast) .....Drlg. sand 1,953 ft.
Sun Oil Co.'s No. 4 Chambers (south) .....Drlg. sand and lime 2,297 ft.
Sun Oil Co.'s No. 3 McKinney, southeast .....Drlg. shale and lime 4,711 ft.
The Texas Company's No. 1 Lawrence .....Pulling screen 5,260 ft.
Unice Oil Co.'s No. 2 Feldman, east .....Drlg. sand and boulders 1,527 ft.
Yount Lee Oil Co.'s No. 10 Chambers (south) .....Cored lime 5,110 ft.
Yount Lee Oil Co.'s No. 11 Chambers, south .....Drlg. shale 5,082 ft.
Yount Lee Oil Co.'s No. 2 Phillips, southeast .....Drlg. shale 1,818 ft.

BOLING—FORT BEND AND WHARTON

Houston Gulf Gas Co.'s No. 1 Fields (northwest).....Coring sand showing oil 3,155 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 5 Austin College .....Drlg. hard shale 1,762 ft.
Humble & Valley's No. 6-A Bracey .....Derrick.
Humble & Valley's No. 7-A Bracey .....Location.
Humble & Valley's No. 3 Buchanan .....Derrick.
Humble Oil & Refg. Co.'s No. 8-B Deutrich .....Waiting cement to set 1,090 ft.
Humble & Valley's No. 9-A Deutrich .....Shut down 3,200 ft.
Humble & Valley's No. 11-B Deutrich .....Derrick
Humble & Valley's No. 12-B Deutrich .....Derrick.
Humble & Valley's No. 1 Duncan, State land .....Rig
Humble & Valley's No. 6 Gotosky .....Standing 3,166 ft.
Humble & Valley's No. 8-B Grawunder .....Rig.
Humble & Valley's No. 10-B Grawunder .....Derrick.
Humble & Valley's No. 3 Helmuth .....Derrick
Humble & Valley's No. 3 Jackson .....Drlg. shale and lime 2,306 ft.
Humble & Valleys No. 1-B Machamehl .....Drlg. shale and lime 1,953 ft.

(Continued on Page 115)

Increase Shipments in Darst Creek

December Total Almost 150,000 Bbls. Compared With 38,640 Previous Month. Thirty-Nine Tests Drilling or Rigged Up

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Jan. 13.—Darst Creek Field, from a dozen wells, put a total of 149,420 bbls. of oil on the market during the month of December, according to the monthly pipe line statement. The month before, from five wells, the field shipments amounted to 38,640 bbls. At this time there are 27 producing wells in the field that have been completed, but not all are on the line and producing. There are 39 tests either drilling or rigged up and all but 8 of these are owned by the major oil companies. Major oil companies own all but about 400 acres of the field and of the 400 acres owned by independents it is estimated that probably less than half will be inside the producing lines.

Shipments from the field for the month of December were as follows:

Company, lease—	No. Wells	Daily aver.	Month Total
Magnolia:			
Appling	1	147	4,557
Miller	1	374	11,594
Thos. Dix	2	1,741	53,971
M. T. Klein	1	744	23,064
Penn-Simms:			
Manford	1	380	11,780
Texas Company:			
Wilson	1	646	20,026
Anderson	1	530	16,430
Empire:			
Dowdy	1	37	1,147
Humble:			
Baker	1	41	1,271
Denmann	2	180	5,580
Total	12	4,820	149,420

Turman Oil Co. of Fort Worth owns leases in the field with production and pipe line connections which are not shown in the first pipe line runs gathered. Turman Co. has completed its pipe line and is running oil to the Grayburg Oil Co. refinery at San Antonio through the Grayburg pipe line from the old Luling Field. This production would further swell the totals in the report.

Other than the developing of a little water in three wells the Darst Creek field has developed little of startling consequence except the making of several locations still farther to the southwest of present production. Trinity Drillers' No. 1 Rand Miller completed a couple of weeks ago is the first well to show water and it showed about 20 per cent. Magnolia Petroleum Co.'s No. 1 Peter Klein is making about 5 per cent water and Humble Oil & Refining Co.'s No. 1 Denman 1½ per cent water. These wells are all in about the center of the field and the showing up of water was not unexpected as it was a feature of both the old Luling and the new Joe Bruner Fields producing from the Edwards. It is not considered as a setback to the field, but rather a defining of the water line and the limits of the field.

At the close of last week Gulf Production Co.'s No. 1 Tadlock and The Texas Company's No. 1 Henry Willie were each being swabbed in and each looked like a good well.

Sun Oil Co.'s No. 1 A. E. Dowdy is nearly a half mile southwest of nearest production in the field and more than that southwest of the discovery well. Heretofore the development of the field has been all to the northeast of the discovery well. When Turman Oil Co. got the lease on a narrow strip from the county a half mile southwest of the discovery well it started several offsets and turned the activity in that direction.

Brooks County

Houston Oil Co. drilling No. 1 Wormser-Holbein, 660 feet southwest of No. 1 Lasater, discovery well in the Lasater or Palo Blanco Gas Field in north central Brooks County, at 4,141 feet tested 700 feet of oil and 100 feet of water. It is the first test drilled since the bringing in of the same company's No. 1 Lasater, discovery well, at 4,110 feet making 40,000,000 feet of wet gas.

The Humble Oil & Refining Co. and Shell Petroleum Corp.'s joint deep test in Brooks Conty, about 7 miles southeast of the Lasater gas field on the Singer lands and 2,500 feet from the S line and 330 feet from the E line of Section 312 of the Alta Verde area have set 400 feet. of surface casing and drilling ahead. This well was started with a 21-inch hole.

The Houston Oil Co. has taken a lease on 2,800 acres of the Wormser-Holbein pasture immediately southwest of the Lasater gas field in Brooks County and will commence a well on this property in the near future.

Goliad County

In addition to the new location of William F. Morgan in western Goliad County on which he is rigging up, about a mile a little west of north of Zoch's No. 1 Kaufmann gas well and 150 feet. from the SE and NW lines of the George Ray 627-acre tract, another well will further test this area shortly. This new location due to be spudded in before April 1 by the Humble Oil & Refining Co. will be on the Lackey and Weldon 1,000-acre tract in the Javiano Gomez and B. & B. Surveys in the extreme west part of Goliad County. This tract is almost a direct offset to Union Producing Co.'s No. 3 Ray well and lying to the north and east of this well.

Victoria County

Humble Oil & Refining Co.'s deep test in the Nursery Shallow Gas Field, 1,634 feet from the SE line and 736 feet from the SW line of the D. L. & C. Survey on the J. J. Welder lands will test a sand at approximately 5,600 feet the first of the coming week, the weather permitting. The sand is said to show both oil and gas and a big well is hoped for. This company has transferred a crack crew from the Houston area to superintend the testing of this well. Roads are being graveled to the well and great preparations are in progress for the bringing in of what they hope will be a new field.

De Witt County

F. P. Zoch is making fast time in the drilling of his No. 1 Steinmann, 976 feet from the SW line and 1,797 feet from the NW line of the John Garelli Survey in southeastern DeWitt County and is down nearly 3,000 feet having stopped to take only one core up to 2,900 feet. Drilling will probably be slower from now on. This well is northeast of the Nursery shallow gas field, where the Humble will soon test its No. A-3 J. J. Welder deep test.

A great amount of leasing is going on throughout the whole of DeWitt County. Several blocks are being put together for early development and several of the tests that have been standing for some time are scheduled to get started soon. The Louisiana Oil & Refining Co. has taken up a block partly in DeWitt and partly in Karnes.

Gonzales County

Activity and interest in the wildcats in Gonzales County has slowed up a bit in the blocks now being drilled. There are several blocks already assembled, which are being geologized.

Prairie Oil & Gas Co. is still at work making a geological survey of the big block held by Cranfill & Reynolds in the southeast part of the county with a view of taking over part of this block for another test if the geology is satisfactory.

Laredo District

Two producers were completed in the Laredo district the past week, both 15,000,000-foot gas wells, one the Humble Oil & Refining Co.'s No. 39 Kohler in Duval County, Survey 165, at 1,789 feet and the other the Magnolia Petroleum Co.'s No. 1 D. Benavides in Block 14, Survey 694, Webb County, at 2,322 feet. The latter is in about the center of the gas area just north of the Cole oil pool. New locations reported the last week number three and are all in proven territory and of no unusual interest.

There were four abandonments reported though none were of vital importance.

Production

Daily average production of the various pools in this area for the past week follows:

SOUTHWEST TEXAS

Branyon	24
Bruner	27,710
Dale	626
Darst Creek	11,350
Kingsville	198
Larremore	127
Luling	9,390
Lytton Springs	872
McMullen County	36
Medina County	24
Mirando	9,407
Somerset	1,746
Yoast	1,012
Total	63,522
Week ending January 4	58,617
Increase	5,905

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Alexander Boynton's No. 1 Fee, in the John Sharp Sur., 3,645 varas E W line, 2,070 varas S N line of Sur., SW end of Somerset Field ..... T .D. 2,510 ft. in Buda lime.

BASTROP COUNTY

B. L. Batts et al's No. 1 A. A. Alexander, W. M. Eastland Sur., 4,190 ft. to NW line, 1,320 ft. to SW line of Sur. ..... Shut down 1,325 ft.

Johnson Bros. No. 1 J. A. Cox 930 ft. from NE line, 150 feet from SE line of tract in Jas. Blalock survey ..... T. D. 1,175 ft.; drlg. in shale.

Abernathy et al's No. 1 A. Aldridge, in the Martha Barker Sur., 2,750 ft. SE and 450 ft. NE of 241-ac. tract or 2,000 ft. SW and 4,500 ft. NW of Sur. ..... Drlg. 2,000 ft. shale.

Superior Oil Co.'s No. 1 A. Lasher, D. Dykes Sur., 600 ft. to S and W lines of Sur. ..... Location.

BEE COUNTY

Houston Oil Co.'s No. 1 McKinney, L. C. Randolph Sur. ..... T. D. 3,971 ft.; failed to get circulation; have not landed casing on bottom of hole.

The Texas Company's No. 3 Tipps ..... T. D. 1,000 ft.; shut down.

BEXAR COUNTY

Burton Oil Co.'s No. 1 P. H. Shook, in Monjares Sur., 3,150 ft. to E line, 150 ft. to N line of farm, 10 miles SE from San Antonio ..... Derrick.

Texas Oil & Investment Co.'s No. 1 Dobrowalski, 150 feet from SL, 150 feet from EL of W 67 a of Dobrowalski 147-a-tract in the M. Menchoca Survey, 6 miles W from San Antonio ..... Spudded in.

F. H. Eckert's No. 1 Sandemer, Sur. 52 ..... Drlg. 615 ft.

W. H. Wallace et al's No. 1 Francis Duineg in the Justo Esqueda Survey, 470 ft. S of N line and 189 ft. W of E line (Salodo Creek) 5 mi. SE San Antonio ..... T. D. 1,100 ft.; drlg. in shale.

Moore-Jauer's No. 1 Holly R. Ellison ..... T. D. 1,560 ft.; drlg. in sand.

BLANCO COUNTY

Ashe & Marshall's No. 1, 5 miles S Johnson City ..... Shut down 35 ft.

BROOKS COUNTY

Amos Dinn, trustee's No. 2 Garcia-Ramosi, Share B-1, Las Mestenas y Gonsales grant, 1,300 ft. S. line, 2,325 ft. W line of share B-1 ..... T. D. 1,520 ft.; drlg.

Humble Oil & Ref. Co. and Shell Petroleum Corp.'s No. 1 Singer, Alta Verde Subd., 2,500 ft. S of N line, 333 ft. W of E line of Sec. 312 ..... T. D. 125 ft.; starting with 21-inch hole.

CALDWELL COUNTY

J. Harper et al's No. 1 Crenshaw, in the J. Burleson Sur., 600 ft. NE and 320 ft. NW of farm ..... Location.

W. E. Allaun and Calco Petroleum Co.'s No. 1 Martin ..... T. D. 2,920 ft.; preparing to shoot.

Stone et al's No. 2 Robert Guinn, Joseph Burleson Sur., 150 ft. to NE and NW lines of 225-ac farm ..... Drlg. 2,140 ft. in Del Rio.

Keen & Malcolm's No. 1 Mollie McNeal, George C. Kimball Sur., 2,500 ft. to W line, 860 ft. to N line, 1 mile S from old Luling Field ..... T. D. 890 ft.; shut down.

San Antonio Petroleum Corp.'s No. 1 Gustave Walkerhagen, Thomas Maxwell Sur., 150 ft. to NW and SW lines, 11 miles W from Lockhart ..... T. D. 1,250 ft.; drlg. in Edwards lime and report oil and gas showing.

(Continued on Page 114)

COMPLETIONS

Darst Creek—Guadalupe County

The Texas Company's No. 1 Posey, offsetting Sun Oil Co.'s No. 1 Knoblock, 300 feet to the SE, total depth 2,605 feet, flowed 1,584 bbls.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 38 Kohler, Survey 144, 990 feet from N line, 495 feet from E line, total depth 1,739 feet, set 6⅝-inch casing at 1,734 feet, sand at 1,734-39 feet, 25 bbls.

Cole Pool—Webb County

E. H. Buckner's (Sun) No. 1 Bruni, Survey 5, Mariano Arispe grant, corner Blocks 4, 5, 9, 10, Adams (Folts) Subdivision, Mariano Arispe grant, total depth 2,290 feet, set 6⅝-inch casing at 2,282 feet, sand at 2,282-90 feet, 30,000,000 feet of gas, 700 pounds rock pressure.

Jennings Pool—Zapata County

Harry L. Fansler's No. 1 F. Cuellar, Survey 285, 150 feet from W line, 1,170 feet from N line, total depth 1,676 feet, 40,000,000 feet gas, 670 pounds rock pressure.

NEW LOCATIONS

Buchanan Pool—Caldwell County

Buchanan-Danciger's No. 1 W. T. Cude, 150 feet each way out of SW corner of 23-acre W. T. Cude lease, location.

Darst Creek—Guadalupe County

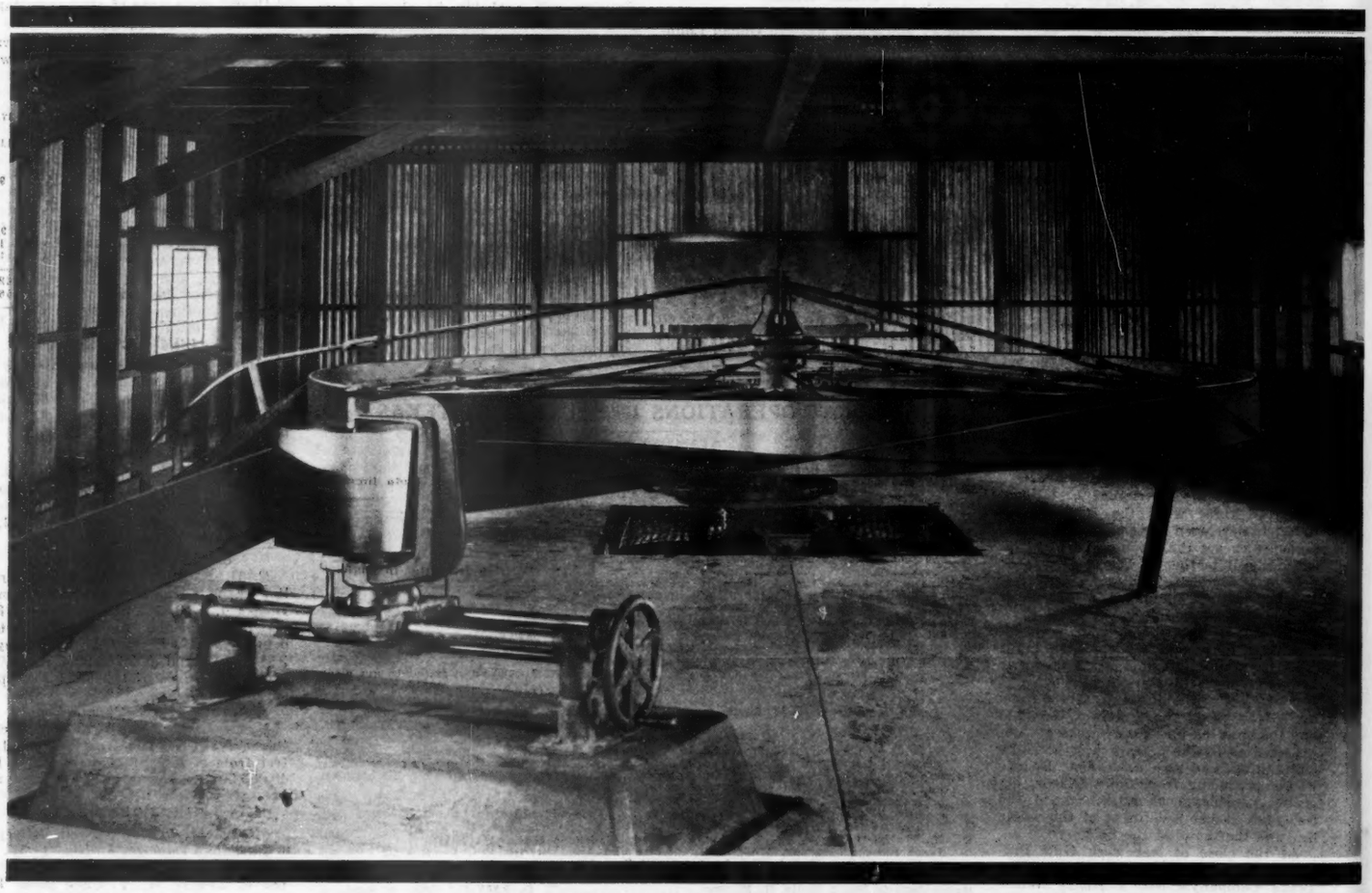
Cranfill & Reynolds' No. 1 R. C. Appling, 3,600 feet from SW line, 2,700 feet from NW line of survey on 111-acre tract in the James Hodges Survey, rigging up.

Empire Gas & Fuel Co.'s No. 2 Dowdy, 650 feet SN line, 150 feet EW line of Dowdy 40 acres, east offset to Humble's No. 1 Dowdy, rigging up. Same company's No. 3 Dowdy, 950 feet SN line, 150 feet EW line of A. E. Dowdy 40-acre tract, east offset to The Texas Company's No. 1 A. E. Dowdy, rigging up.

Gulf Production Co.'s No. 1 Dix-McKean in the Joel Robinson Survey, to-

(Continued on Page 117)

The Pedestal



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To Extend California Curtailment

Time Limit to Be Advanced Another 60 or 90 Days as Marketing Companies Cannot Absorb Additional Production

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Jan. 11.—Technically, California's crude oil curtailment program expires February 1, but it is a foregone conclusion that the time limit will be extended another 60 or 90 days as the situation has not improved sufficiently to warrant the resumption of unregulated production. Approximately 200,000 bbls. a day have been curtailed since November 1 and it would be physically impossible for marketing companies to absorb this at present prices in view of the limited amount of empty tankage available. It is imperative therefore that existing curtailment work be extended at least another 60 days. This is especially true of the situation at Santa Fe Springs because of existing flush production and the probable completion of 25 new wells in the deep zone during a few weeks.

Crude oil curtailment must be continued at Santa Fe Springs in spite of the fact that two operators have failed to fulfill their moral obligation to participate in the mutual concerted attempt to regulate production. Operators in the Elwood Field of Santa Barbara County effected the desired maximum curtailment several weeks ago but this is not surprising because these companies appreciate the necessity of restricting production. The Seal Beach Field of Los Angeles Basin was the first area brought into line following ratification of the curtailment program late in October and the Continental, Associated and Standard will probably continue existing curtailment regardless of conditions elsewhere. Daily production at Long Beach has been slightly in excess of the allowable production of 100,000 bbls. but to all intents and purposes operators in this field have reached the desired objective.

Kettleman Hills

The stabilizing effect of curtailment work in California and the results attained since November 1 are ample assurance that producers will continue the regulation of production until the present crisis has been passed. Considerable discussion has taken place recently because of the impending completion of a new well on fee owned acreage in the Kettleman Hills Field of Kings County. While this projected completion will force operators to effect a slight change in the existing agreement, one should not get unduly alarmed because of the possible effect of this additional development. The well is the Petroleum Securities' No. 1 Felix, which is located on fee owned acreage not covered by the Kettleman Hills agreement. The general opinion that completion of this well will force an endless chain of drilling due to offset requirements is quite erroneous as the committee charged with the responsibility of regulating development work will probably restrict future drilling to a relatively small area.

Buttonwillow Gas Field

The Buttonwillow gas field of Kern County, discovered by the Milham Exploration Co., will soon become an important factor in economic conditions on the Pacific Coast. The Milham started delivering natural gas from the Buttonwillow Field to the Pacific Gas & Electric Co. early in the week for consumption in the San Francisco Bay region and production will be increased from time to time as occasion demands. The Pacific Gas & Electric inaugurated this service by taking 7,000,000 feet the first day but the Milham has started stepping up its production at Buttonwillow to approximately 15,000,000 feet daily.

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	71,950	10,279	.....	.....	71,950	.....
Diesel and gas oil	159,730	22,676	207,383	29,623	159,730	.....
Gasoline	294,261	42,037	499,795	71,399	294,261	.....
Coastwise—						
Crude oil	294,077	42,011	188,811	26,973	294,077	555,154
Fuel oil	347,571	49,653	600,455	85,779	347,571	229,016
Diesel and gas oil	50,939	7,134	4,323	618	50,939	36,037
Gasoline	239,177	34,168	173,137	24,734	239,177	368,499
Exports—						
Crude oil	220,223	31,460	52,703	7,529	220,223	.....
Fuel oil	215,564	30,795	388,208	55,458	215,564	264,027
Diesel and gas oil	116,397	16,628	11,626	1,661	116,397	65,140
Gasoline	432,787	61,827	177,990	25,427	432,787	310,997
Kerosene	.....	.....	72,350	10,336	.....	97,640

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Gasoline	.....	.....	147,914	21,131	.....	77,874
Lubricants	.....	.....	9,988	1,424	.....	.....
Coastwise—						
Fuel oil	44,001	6,286	128,960	18,423	44,001	.....
Diesel and gas oil	8,365	1,195	.....	.....	8,365	.....
Gasoline	156,077	22,297	81,009	11,573	156,077	89,072
Kerosene	7,611	1,087	3,811	544	7,611	4,280
Exports—						
Crude oil	3,075	439	.....	.....	3,075	.....
Diesel and gas oil	6,050	864	.....	.....	6,050	.....
Gasoline	62,900	8,986	161,962	23,137	62,900	150,977

In addition to delivering natural gas to the Pacific Gas & Electric Co. at Buttonwillow, the Milham is also delivering approximately 10,000,000 feet daily to the former at Kettleman Hills. The Pacific Gas & Electric Co. is moving approximately 60,000,000 feet of natural gas daily through its existing facilities extending from Buttonwillow northward to San Francisco and with the installation of a second line to be laid in 1930 the amount handled will probably reach 150,000,000 feet daily.

Production at Santa Fe Springs did not show any great change during the week but the daily output is expected to show a substantial increase in the very near future due to the completion of numerous new wells and former upper zone producers. During the past 24 hours the Associated produced 4,070 bbls. of crude at Santa Fe Springs against an allowable production of 4,371 bbls. This was 301 bbls. a day below its allowable quota. The General Petroleum, on the other hand, due to several recent substantial completions, produced 34,000 bbls. against an allowable production of 22,952 bbls., but this excess will be charged against the company during the next succeeding period. The Richfield, Union and Shell were all below their allowable daily production. The Union Oil Co. produced only 19,400 bbls. during the past 24 hours, compared with an allowable of 27,932. The Standard produced 12,000 bbls., against an allowable of 12,043 bbls. daily, while the Shell ran 8,600 bbls., compared with 11,699 bbls. allowed. The Richfield's production during the past 24 hours was 4,700 bbls., against an allowable of 3,639 bbls.

The Texas Company's flow during the same period aggregated 18,000 bbls., compared with an allowable of 11,697 bbls.

New Wells

The General Petroleum chalked up a flock of new wells during the week and added 16,140 bbls. to its current daily production. No. 101-C on the E. G. B. Lease came in flowing 4,285 bbls. of clean 34.1 gravity oil daily from 8,076 feet, the hole having been finished with a 3-inch liner carrying 788 feet of perforated. No. 136-A Santa Fe and No. 178-C Santa Fe Community were on about a par from a production standpoint, the former showing an initial of 3,450 bbls. and the latter 3,500 bbls. No. 136-A was finished at 8,007 feet, while No. 178-C was bottomed at an even 8,000 feet. On the Hill-Midway lease the General Petroleum completed No. 104 flowing 2,285 bbls. of clean 33.9 gravity oil daily from 8,050 feet. No. 152-H Santa Fe, bottomed at 8,000 feet and completed with a 2½-inch liner carrying 795 feet of perforated, was brought in flowing 2,660 bbls. of clean 33.7 gravity oil daily.

York & Lockhart successfully recompleted their No. 1 after redrilling and deepening it to the Clarke zone at 7,919 feet. Upon being returned to production this rejuvenated well tanked 6,095 bbls. of clean 33.9 gravity oil during the initial 24-hour test. The Bandini Petroleum had the misfortune to stick the drill pipe while rotating in No. 17 Off at 7,414 feet but this mishap was not costly as the well blew in flowing 2,950 bbls. of clean 33.8 gravity oil daily while the crew was circulating with oil in an effort to release the stuck pipe. The Bandini Petroleum, a subsidiary of the Wilshire Oil Co., has three other wells nearing completion in this area and a check indicates the parent company will probably also finish two new wells in the near future. The Texas Company, Standard, Shell, Richfield, George F. Getty, General Petroleum and Associated are also making preparations to augment their list of producers shortly. The Standard finished one small well when No. 7 Koontz, a former upper zone producer, was returned to production doing 570 bbls. daily upon being redrilled and deepened to the Clarke zone at 7,928 feet. The Shell also finished a small well, No. 30 Golay, a new well, being finished flowing 855 bbls. initially from the Clarke sand at 8,062 feet.

Long Beach

Daily production has been relatively stable in the Long Beach Field for several weeks due principally to successful

WILL MAKE AN EFFORT TO REVIVE OLD OIL CITY FIELD IN ALBERTA

By Victor Lauriston

CHATHAM, Ontario, Jan. 11.—The next few months will witness an attempt by Patrick Oils, Ltd., of Calgary to revive the old Oil City Field in southwestern Alberta. This was Alberta's first oil field, and it has had a rather curious history, in addition to presenting somewhat unusual geological conditions. The presence of oil in what was then a practically untraversed wilderness was first noted by Doctor Dawson of the Geological Survey of Canada 50 years ago, the geologist noting very pronounced seepages from rock outcrops.

These seepages were for many years commercialized in a curious way by a squatter named Bill Aldridge. Aldridge used old sacks to soak up the oil from the surface of the creeks, and later dug shallow wells. Oil secured in this way was treated in a sort of primitive refinery which Aldridge established in his cabin at Waterton Lake. The product was sold to prairie settlers in the Cardston district for lighting and as a cattle dip, commanding around $1 a gallon.

A. P. Patrick, Sr., now of Calgary, and Lafayette French investigated the sources of the oil and in the latter nineties interested a group of men headed by the late John Lineham of Calgary in a development project. The Rocky Mountain Development Co. was organized, and started a test in Section 30-1-30w4. Drilling equipment was brought in at heavy cost and in spite of tremendous difficulties of transportation. The test started drilling in November, 1901, and at 1,020 feet encountered a flow of high grade crude oil, estimated as high as 300 bbls. a day. The tools were lost in the hole, paraffin formed and though production was maintained to some extent for several months, it ultimately pinched out.

A number of other companies were organized, and the Rocky Mountain Development Co. put down several additional wells. A townsite was laid out at Oil City. The boom continued till 1903, after which operations were gradually abandoned, though the Rocky Mountain Development Co. continued active to some extent till 1909. Lack of capital, high drilling costs and transportation difficulties materially hindered development.

At the time of the Calgary boom in 1914, A. P. Patrick, Sr., one of the men behind the Rocky Mountain Development Co., secured the original Lineham acreage and organized the Original Development Oil Co. This company started a new test close to the old Lineham well. The war, and the collapse of the Calgary boom, with resulting financial stringency, forced the company to discontinue operations. The present company has been organized by the Patrick-Spence Syndicate, which includes A. P. Patrick, Sr., L. R. Patrick and others.

A report prepared by Dr. John A. Allan, of the University of Alberta for the Original Discovery Oil Co., in 1914, indicates rather unusual geological conditions on the acreage controlled by the present company. The report says in part:

"These holdings are situated at Oil City, 25 miles west southwest of Pincher Creek and 5 miles north of the international boundary line. Oil Creek, which flows into the Waterton Lake, cuts through both sections (30 and 32). This property is behind the front or outermost range of the Rocky Mountains, bordering on the Great Plains.

"The district is truly mountainous, the ridges and mountains extending from 2,000 to 3,000 feet above the bottom of the valleys. Since the sides of Oil Creek Valley are quite steep the only areas that can be profitably explored for oil are those immediately adjoining Oil Creek.

"That crude exists under this district has been definitely proven by the wells put down by the Rocky Mountain Development Co. in Section 30 and also by the Western Coal & Oil Co. in Section 23, both in Township 1-30w4. From one of the wells drilled a few years ago by

(Continued on Page 118)

curtailment work undertaken under the supervision of Umpire Neal Anderson. The A. T. Jergins Syndicate put two wells on production in this field and should have two more, Nos. 26 and 27, on production shortly. No. 9 Municipal, a former upper zone producer, was returned to production doing 520 bbls. of 27.8 gravity oil daily from 8,324 feet. This well, finished with a 4¾-inch oil string carrying 1,098 feet of perforated, was cemented through perforations at 7,226 feet. The Jergins Syndicate's other completion was No. 9 Robinson, a shallow pumper making 180 bbls. of 23.1 gravity oil daily on the beam from 4,653 feet. The Richfield Oil Co. recompleted No. 1 Union Pacific, originally finished higher up by the Pan American, and this well was returned to production doing 355 bbls. daily from 7,349 feet. The Vulcan Petroleum Co. completed No. 1 Signal early in the week doing 355 bbls. daily from 7,009 feet. A check of present production shows the Shell producing 23,800 bbls. daily, followed by the Richfield with 9,500 bbls., The Texas Company with 8,300 bbls., Dabney & Johnston with 7,350 bbls., Union with 2,400 bbls., and General Petroleum with 1,500 bbls. daily. Several additional locations were staked in the southeastern end of the field and this area should continue to hold the interest of operators for several months as deep drilling is required and new wells just getting under way will not affect production until along about June 1.

Midway-Sunset

Several new wells are being prepared for production tests out in the Maricopa flats section of the Midway-Sunset Field and most of them should be tanking oil within a few days. The Rio Grande's No. 3 Havenstrite came in flowing 200 bbls. an hour but sanded up within a short time. Oil is being circulated to cut out the sand break and it is thought probable this project will be back on production soon. The Doyle Petroleum is making a production tests on No. 3 Weir and this well should also be finished within a day or so. The Standard also hopes to chalk up a new completion as No. 3 Bogoyne has just been passed for production. This company has five other potential producers which should be given tests in the near future and, judging by their present status, they should all be finished within a few weeks. The Union failed to get a satisfactory water shutoff in No. 1 Son and it has been recemented at 3,708 feet with the bottom of the hole at 3,738 feet.

In the Fruitvale Field of Kern County the Western Gulf Oil Co. finished No. B-10 Kern County Land flowing 685 bbls. of clean pipe line oil daily from 4,003 feet. The output of this well, which tests 21.1 degrees and cuts 1 per cent, is flowing through a 1-inch bean under a pressure of 700 pounds. No. 2-C Kern County Land in Section 28-29-27 is being prepared for production at 4,177 feet and Gulf company officials expect to complete it next week. The Richfield Oil Co. finished No. 6 Government out on the west front section of the Kern River Field in Section 22-28-27 at 2,199 feet, but it was shut in without a test after being bailed clean. Three new holes are being started in the Mount Poso Field of Kern County and two more will get under way soon. The General Petroleum has already started rig construction on No. 28 Glide and No. 53 Heisen and The Texas Company is putting in cement foundation for No. 4 Alta Vedder. At Round Mountain the Superior has material on ground for No. 1 Coffee and the Shell has erected a rig for well No. 9 on Jewett Lease No. 2. The Standard's deep test in the Wheeler Ridge Field, in the extreme southern end of the San Joaquin Valley, has reached a depth of 6,675 feet without logging any indications of a deep zone.

Ventura Avenue

Two new wells were successfully completed in the Ventura Avenue Field and both registered satisfactory production. No. 125 Lloyd of the Associated came in flowing 3,050 bbls. of 25.4 gravity oil and 4,200,000 feet of wet gas daily from 7,700 feet. This project is producing from 2,023 feet of formation and should show sustained production. The Shell's No. 43 Taylor, a new well, which was bottomed at 7,192 feet and finished with a string of 6⅝-inch landed at 7,142 feet and cemented through perforations at 5,099 feet, registered an initial of 1,685 bbls. daily. Both the Associated and Shell have additional potential producers under way in this field and should continue to list new completions. The Bolsa Chica Oil Co. ran a water witch in No. 5 Hartman, which developed a little water trouble subsequent to completion a few weeks ago, and the survey showed a leak in the cement plug in the bottom of the hole. Remedial work has already been undertaken and the company has hopes of recompleting this project shortly.

The Chanslor-Canfield Midway Oil Co.'s No. 2-A Hobson in the Rincon Field of Ventura County has resolved itself into a deep test following the failure to pick up a sufficient amount of oil sand in the upper zone to warrant the expectation of developing commercial production. This project is rotating at 5,070 feet, but is not out of the picture yet. No. 11-B Hobson of the same company is in the oil sand at 3,205 feet and an early completion is anticipated. By deepening No. 2 Tomson 250 feet, the General Petroleum changed a small mediocre pumper into a flowing well doing 850 bbls. daily. This project, a small pumper at 3,000 feet, was redrilled and deepened to 3,267 feet. The General Petroleum was hampered somewhat in No. 2 Ferguson, a tideland drilling project, by inclement weather but is again making good footage. Drilling operations in the Elwood Field of Santa Barbara County offer tangible evidence of the success of curtailment work in that field as a check shows 11 wells suspended in conformity with the curtailment agreement now in effect.

Richfield

The Superior Oil Co. finished No. 1 Griffith, a new well in the Richfield district at Los Angeles Basin, but the outcome was disappointing as it made only 50 bbls. daily from 4,611 feet. The Continental's No. 2 Mondotte and the Union's No. 28 Chapman should be the next completions listed. In the Rosecrans district the Barnsdall has drilled out No. 1 Trust and this project will be given a chance to make a bid for production in the Zins zone. During the course of a water test the well built up a considerable pressure and threatened to get beyond control. It is the present intention to drill ahead cautiously to open up some more sand if possible as the bit had just penetrated the top of the zone previous to the landing of the water string. Drilling operations in the Seal Beach Field have been reduced to a negligible quantity as a result of curtailment work and no increase in work is anticipated. The next two wells scheduled for completion in this field are the Continental's No. 23 Selover and the Associated's No. 4 Bryant. In the Newhall Field, where one of the first producing wells was finished in California years ago, the Southern California Drilling Co. successfully completed No. 2 Needham, a new well pumping 185 bbls. of 22.4 gravity oil daily from 1,511 feet. No. 1 Needham, which was originally completed several weeks ago, has just been returned to production pumping 145 bbls. daily from 1,595 feet. Interest in the Newhall Field has been revived after a long dormancy due to recent completions.

If it were not for several deep tests under way, the Potrero Field of Los Angeles Basin would be a very inactive area as most operators have given up hope of developing commercial production in the present known horizon and are consequently watching the outcome of several deep tests under way. The Pacific Southwest Development Co. has not yet recompleted No. 1 Bergman, which picked up a second zone a short time ago but this well should be given another test soon as the installation of compressor equipment is going along in good shape. In the meantime Hugh Grant, Sunset Pacific Oil Co. and Taylor & Murphy have also cored this deeper zone in their respective tests and are making preparations to land water strings. York & Lockhart's No. 2 Potrero, the only well in this field to produce clean oil, continues to yield 70 bbls. of 48.3 gravity oil daily. All of the other producing projects are cutting from 15 to 50 per cent water.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S-T-R	Depth	Status
Union, No. 1 Buel Canyon, Santa Barbara Co.	X- 7-31	3,950	br. sh. drilling
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	3,520	br. sh. drilling
Ohio Oil Co., No. 1 Lompoc, Santa Barbara Co.	2- 6-34	118	hd. sd. drilling
Standard, No. 1 Point Arguello, Santa Barbara Co.	35- 6-36	2,600	br. sh. drilling
Calif. Oil Prop., No. 1 San Marcos, Santa Barbara Co.	3- 4-28	4,040	sespe-drilling
Carey, A., No. 1 Goleta, Santa Barbara Co.	1- 4-28	2,455	suspended
General Pet., No. 1 Goleta, Santa Barbara Co.	31- 4-28	4,533	gas well-idle
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	3,300	sd. sh. drilling
General Pet., No. 1 Goleta Tideland, Santa Barbara Co.	21- 4-28	525	sd. sh. drilling
General Pet., No. 2 Goleta Tideland, Santa Barbara Co.	21- 4-28	515	sd. sh. drilling
General Pet., No. 3 Goleta Tideland, Santa Barbara Co.	21- 4-28	55	sd. drilling.
General Pet., No. 4 Goleta Tideland, Santa Barbara Co.	21- 4-28	rig	rigging up
General Pet., No. 5 Goleta Tideland, Santa Barbara Co.	21- 4-28	546	sd. sh. drilling
U. S. Pet., No. 1 Goleta Tideland, Santa Barbara Co.	20- 4-28	75	sd. drilling
U. S. Pet., No. 2 Goleta Tideland, Santa Barbara Co.	20- 4-28	50	sd. drilling
U. S. Pet., No. 3 Goleta Tideland, Santa Barbara Co.	20- 4-28	125	br. sh. drilling
Maxmillan Pet., No. 1 Goleta Tideland, Santa Barbara Co.	21- 4-28	rig	rigging up
Standard, No. 2 Goleta, Santa Barbara Co.	X- 4-29	1,980	will deepen
Tannehill, L. B., No. 1 Goleta, Santa Barbara Co.	24- 4-29	5,270	gr. sh. drilling
Standard, No. 1 County Farm, Santa Barbara Co.	11- 4-28	2,490	sespe-drilling
General Pet., No. 3 Capitan, Santa Barbara Co.	4- 4-30	910	sd. sh. drilling
Oakburn Oil Co., No. 1 Capitan, Santa Barbara Co.	4- 4-30	rig	rigging up
Oakburn Oil Co., No. 2 Capitan, Santa Barbara Co.	4- 4-30	210	sd. sh. drilling
Oakburn Oil Co., No. 3 Capitan, Santa Barbara Co.	5- 4-30	410	suspended
Oakburn Oil Co., No. 4 Capitan, Santa Barbara Co.	4- 4-30	mtl.	building pier
Oakburn Oil Co., No. 5 Capitan, Santa Barbara Co.	4- 4-30	mtl.	building pier
Shell Oil Co., No. 1 Capitan, Santa Barbara Co.	4- 4-30	1,290	sd. sh. drilling
Fields Gasoline Co., No. 1 Orcutt, Santa Barbara Co.	36-10-34	5,072	testing
Gorham, H. B., No. 1 Santa Maria, Santa Barbara Co.	33-10-34	4,670	br. sh. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	30-10-35	4,190	br. sh. drilling
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,215	sd. sh. drilling
Gilmore Oil Co., No. 1 Gibraltar, Santa Barbara Co.	1- 5-28	rig	suspended
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	1,670	br. sd. drilling
Standard, No. 1 Casitas, Santa Barbara Co.	26- 4-25	516	sd. sh. drilling
Continental, No. 1 Carpenteria, Santa Barbara Co.	33- 4-25	4,130	gas well-idle
Continental, Tideland permit No. 121, Santa Barbara Co.	33- 4-25	75	sd. sh. drilling
Continental, Tideland permit No. 122, Santa Barbara Co.	33- 4-25	125	sd. sh. drilling
Continental, Tideland permit No. 123, Santa Barbara Co.	33- 4-25	105	sd. sh. drilling
Continental, Tideland permit No. 124, Santa Barbara Co.	33- 4-25	415	sd. sh. drilling
Continental, Tideland permit No. 125, Santa Barbara Co.	33- 4-25	120	sd. sh. drilling
Continental, Tideland permit No. 126, Santa Barbara Co.	33- 4-25	200	sd. sh. drilling
Continental, Tideland permit No. 127, Santa Barbara Co.	33- 4-25	130	sd. sh. drilling
Continental, Tideland permit No. 128, Santa Barbara Co.	33- 4-25	98	sd. sh. drilling
Continental, Tideland permit No. 129, Santa Barbara Co.	33- 4-25	85	sd. sh. drilling
Getty, Geo. F., No. 1 Carpenteria, Santa Barbara Co.	32- 4-25	68	cemented
Getty, Geo. F., No. 2 Carpenteria, Santa Barbara Co.	32- 4-25	55	cemented
Standard, No. 5-9 Saticoy, Ventura Co.	10- 2-22	8,458	br. sh. drilling
Bolsa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	1,475	br. sh. drilling
Associated, No. 1 Rincon, Ventura Co.	19- 4-24	400	sd. sh. drilling
Continental, No. 3 Sulphur Mountain, Ventura Co.	21- 4-22	5,850	br. sh. drilling
Lockwood Oil Co., Well No. 1, Ventura Co.	28- 8-21	682	suspended
Milham Expltn., No. 9 Buttonwillow, Kern Co.	8-28-23	4,990	br. sh. drilling
Shell, No. 1 Mountain View, Kern Co.	29-30-29	....	location
Elmer Oil Co., No. 1 Bena, Kern Co.	15-30-30	3,800	suspended
Elmer Oil Co., No. 1-A Rosedale, Kern Co.	33-29-26	5,262	hd. sd. drilling
General Pet., No. 1 Rosedale, Kern Co.	23-29-26	5,540	hd. sd. drilling
The Texas Company, No. 1 Edison, Kern Co.	23-29-29	4,650	br. sh. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
McVey, Max, No. 1 Jasmine, Kern Co.	23-25-27	rig	rigging up
Union, No. 2 San Emidio, Kern Co.	8-10-21	3,750	br. sh. drilling
Mallery Willard, No. 1 San Emidio, Kern Co.	9-10-23	550	suspended
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	2,825	hd. sd. drilling
Knudsen, John, No. 1 Jacalitos, Fresno Co.	14-21-14	1,460	bl. sd. drilling
Rio Grande Oil Co., No. 1 Kerman, Fresno Co.	14-13-17	5,000	sd. sh. drilling
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	7,390	sd. sh. drilling
Western Gulf, No. 1 Penoche Valley, Fresno Co.	26-15-12	mtl.	building rig
Union, No. 1 Huasna, San Luis Obispo Co.	34-32-15	4,158	suspended
Union, No. 1 North Huasna, San Luis Obispo Co.	12-32-14	5,160	fishing
Midwest Refining Co., No. 1 Huasna, San Luis Obispo Co.	34-31-15	2,212	redrilling
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,019	fishing
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	2,742	suspended
Latin American, No. 1 Shandon, San Luis Obispo Co.	31-27-15	4,160	gr. sh. drilling
Caessher, H. B., No. 1 Dudley, Monterey Co.	8-22- 9	245	suspended
Union, No. 1 King City, Monterey Co.	8-22- 8	2,695	set pipe
Standard, No. 1 King City, Monterey Co.	23-22- 7	3,355	hd. sd. drilling
Pacific Inland Oil Co., No. 1 Parkfield, Monterey Co.	19-23-15	780	suspended
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,338	suspended
Dudley Ridge Synd., No. 1 Tulare, Kings Co.	12-23-19	1,305	gas-shut in
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,882	suspended
Porter, H. B., No. 1 Devils Den, Kings Co.	9-24-17	2,420	redrilling
Oceanside Oil Co., No. 1 Kreyenhagen, Kings Co.	32-22-16	300	suspended
Getty, Geo. F., No. 1 Dutton, Madera Co.	18-13-16	4,615	to test
Twin State Oil Co., No. 1 Soldani, Mendocino Co.	14-12- 7	1,690	sd. sh. drilling
Barnhart Trust, No. 1 Oakdale, San Joaquin Co.	3- 2-10	2,550	fishing
Inland Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,030	suspended
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	2,285	hd. sd. drilling
Terminal Oil Co., No. 1 Tulare, Tulare Co.	29-20-26	4,198	suspended
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	620	sd. sh. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Simmel, L. G., No. 1 Inglewood, Los Angeles Co.	21- 2-14	1,865	sd. sh. drilling
Raleigh Oil Co., No. 1 Malibu, Los Angeles Co.	1- 2-19	3,450	sd. sh. drilling
Clearwater Oil Co., No. 1 Bellflower, Los Angeles Co.	21- 3-12	3,075	fishing
Continental, No. 1 Alamitos, Los Angeles Co.	34- 4-12	6,140	hd. sd. drilling
Getty, Geo. F., No. 1 Riviera, Los Angeles Co.	27- 2-12	rig	rigging up
Burlingham Pet., No. 1 Compton, Los Angeles Co.	17- 3-13	2,510	hd. sd. drilling
Hanners, George, No. 1 Watts, Los Angeles Co.	3- 3-13	3,655	suspended
Diller, W., No. 1 Watts, Los Angeles Co.	3- 3-17	2,950	sd. sh. drilling
Cal. Well Drlg. Co., No. 1 Compton, Los Angeles Co.	11- 4-13	5,500	testing
Archer Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	5,500	sd. sh. drilling
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820	suspended
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	3,273	sd. sh. drilling
The State Co., No. 1 Puente, Los Angeles Co.	5- 2-10	3,595	sd. sh. drilling
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	1,050	sd. sh. drilling
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	1,620	hd. sd. drilling
Union Oil Co., No. 1 Richfield, Los Angeles Co.	13- 3- 9	2,380	br. sh. drilling
Coastline, No. 1 Devils Canyon, Los Angeles Co.	21- 5-17	2,400	gr. sd. drilling
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	365	sd. drilling
Martin, J. W., No. 1 Newhall, Los Angeles Co.	22- 1-17	982	suspended
Consolidated Oil Co., No. 1 Newhall, Los Angeles Co.	8- 3-16	890	hd. sd. drilling
National Sec., No. 1 Newhall, Los Angeles Co.	1- 3-16	834	sd. drilling
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	900	suspended
Shell, No. 1 Bolsa, Orange Co.	18- 5-11	4,275	hd. sd. drilling
Shell, No. 1 Coyote, Orange Co.	28- 3-10	6,050	redrilling
Standard, No. 1 Coyote, Bastanchury, Orange Co.	21- 3-10	3,830	sd. sh. drilling
Union, No. 1 Coyote, Sansinena, Orange Co.	30- 2-10	2,150	br. sh. drilling
Beard, G. F., No. 1 Brea Canyon, Orange Co.	30- 2- 9	1,199	redrilling
Western Gulf, No. 1 Brea Canyon, Orange Co.	28- 2- 9	1,570	br. sh. drilling
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	3,950	testing
Oil Well Eng. Co., No. 1 Newport, Orange Co.	21- 6-10	2,795	suspended
Hall Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701	cemented
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,403	suspended
Imperial Valley Oil Co., Well No. 1, Imperial Co.	32-11-10	2,980	suspended
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	2,150	sd. sh. drilling
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,120	redrilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	X-13- 4	1,900	sd. sh. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,525	hd. sd. drilling
Duncan, N. I., No. 1 Mojave, San Bernardino Co.	8- 4- 6	rig	rigging up
Girard & Grimes, No. 1 Corona, San Bernardino Co.	8- 2- 8	150	sd. drilling

MADE BOARD CHAIRMAN

James H. Caldwell, former president of the Ludlow Valve Manufacturing Co., Troy, N. Y., has resigned as president and has been elected chairman of the board of directors. William H. Lolley of Buffalo, N. Y., has succeeded Mr. Caldwell as president.

Lea Pool Wells Attract Attention

Two Pumping an Average of 1,200 Bbls. a Day. Well Gauging 990 Bbls. in Eunice District, East of Lea Pool, May Open New Pool

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Jan. 13.—The Lea Pool in Lea County, southeastern New Mexico, had several wells attracting attention this week. The Cranfill & Reynolds' No. 3-B State, is pumping an average of 1,200 bbls. a day, and the Continental Oil Co.'s No. 1 State is expected to do as well. The Texas Production Co. has two wells in the immediate vicinity about ready to drill in. The Continental Oil Co.'s No. 1 A. E. Meyers, in the Eunice district, east of the Lea Pool, which promises to open another pool, gauged 900 bbls. of 34 gravity oil in 18 hours. Two wells in the Maljamar area in Eddy County are showing for producers.

Wyoming had three completions in the Tensleep formation on as many separate domes, all being pioneer wells to that horizon and proving that formation on the Dallas, Derby and Hamilton Domes. Two wells averaging close to 100 bbls. each were completed in the La Barge Field and the Midwest Oil Co. had a 258-bbl. well in Salt Creek.

Colorado had two completions, both by the Continental Oil Co., its No. 4 Scott on the Wellington Dome being a 15-barrel pumper and its No. 1 Giovanni, in the Florence district being a dry hole.

NEW MEXICO

The Lea Pool in Lea County, southeastern New Mexico, northwest of the Jal Field and southwest of the Hobbs Pool, continued this week to occupy the center of the stage in that county. Cranfill & Reynolds' No. 3-B State, SW cor. Lot 9, Section 2-21-33, was completed and put on the pump. It made 1,081 bbls. the first 17 hours from a total depth of 3,780 feet, and is averaging around 1,200 bbls. a day. This well is one location south of the same firm's No. 2-B State, which was reported a completion last week at 3,765 feet, averaging 248 bbls. daily, and an offset on the southwest to the same firm's No. 1-B State, the first producer in this immediate vicinity. No. 3-B State, elevation 3,798 feet, topped the salt at 1,875 feet and bottomed it at 3,380 feet. The top of the brown lime was at 3,418 feet. No. 1-B State, NE cor. Lot 9, Section 2-21-33, around which the new wells are located, was completed last October at 3,755 feet, and started off at 1,700 bbls. This subsequently was increased to 2,200 bbls. daily. The Continental Oil Co.'s No. 1 State, NW cor. Lot. 12, Section 1-21-33, an offset on the east to Cranfill & Reynolds' No. 1-B State, has not yet been completed, but it is estimated it will make close to 75 bbls. an hour initial. The failure of the Amerada Petroleum Corp.'s No. 1 State, half a mile east of the Continental's well, reported last week, indicates the productive strip will be rather narrow unless the test to be drilled by Cranfill & Reynolds' No. 1-D State, SE cor. Lot 6, Section 3-21-33, a mile to the west of the producers, should change the situation. This operation is building rig. The Texas Production Co.'s No. 1-A State, SE cor. Lot 8, Section 2-21-33, a little to the south of the new producers, is bottomed at 3,590 feet with the 8¼-inch cemented at that depth, and its No. 2-A State, SW cor. Lot 8, one location farther west, is drilling at 3,520 feet in brown lime. The base of the salt was at 3,375 feet and top of the lime at 3,375 feet. The same company's No. 1-B State, SW cor. Lot 5, Section 1-21-33, is drilling at 3,495 feet in brown lime, topped at 3,390 feet. The base of the salt in this well was at 3,363 feet.

Eunice District

The Continental Oil Co.'s No. 1 A. E. Meyers, NE SW SW ection 17-21-36, in the Eunice district, about 18 miles east of the Lea Pool, proved to be one of the interesting developments and points to the opening of a new pool. This well is bottomed at 4,001 feet. After running casing to shut off a flow of 70,000,000 feet of gas from upper horizons, the well was given a test. It gauged 990 bbls. in 18 hours, the oil being 34 gravity. The location is 2½ miles northeast of the same company's No. 1 Lockhart.

In the Hobbs area, the Midwest Refining Co.'s No. 24 State, NE SE SW Section 10-19-38, reported a completion last week at 4,180 feet total depth, with a production of 686 bbls. the first 24 hours, averaged 560 bbls. a day on a five days' test. This company's No. 13 Terry, SE NE SW Section 10-19-38, one location to the north of the State well, is shut down for engine repairs at 3,840 feet, and its No. 6 Wright, NW cor. SW Section 14-19-38, is drilling at 3,100 feet in anhydrite. It had approximately 1,000,000 feet of gas at 2,937 feet and, based on the top of the anhydrite, is running 40 feet higher than No. 24 State. The Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE Section 30-18-38, 3 miles, northwest, is bottomed at 3,962 feet in lime and waiting for cement to set. The 6⅝-inch was cemented at 3,962 feet.

In the Tatum area farther to the north in Lea County, A. D. Morton's No. 1 State, C NW Section 32-11-38, is drilling at 3,100 feet in red rock. The base of the salt was at 3,000 feet, and the elevation is 3,901 feet.

Jal Field

In the Jal Field in the southern part of Lea County, the Empire Gas & Fuel Co.'s No. 2 Lindley, NE cor. SE Section 14-25-36, is a location. It is on the same forty as its No. 1 Lindley, completed last week with an initial production of 2,000 bbls. No. 1 Lindley was in the center of the 40-acre tract and it appeared that was to be the distance for spacing the wells in that area, but the new location indicates that policy will not be followed. It is also an offset on the south to the Humble Oil & Refining Co.'s No. 1 Koonce, SE cor. NE Section 14-25-36, which has rig up.

In Eddy County, two wells in the Maljamar, or Caprock area, northeast of the Artesia Pool, attracted attention. Etz Brothers' No. 1 Etz, C SE SE Section 13-16-30, had a show for 25 to 30 bbls. a day in a break in the lime at 3,585-3,620 feet. As this well has a surface elevation approximately 100 feet higher than No. 1 Jackson, the discovery well, it is believed the major pay has not yet been reached, but will be found within the next 100 feet. Naylor and others' No. 2 Danciger, NW cor. SW Section 18-17-31, had 2,000 feet of oil in the hole from the lime at 3,440-3,550 feet and shut down to erect two 250-bbls. tanks. It will be drilled deeper. before making a test.

In Rio Arriba County, the Parent Oil Co., of Los Angeles, has taken over the Berringer operation in NW cor. NE Section 8-29n-7w, Governardo district, and will complete it. It has been standing for some time at 825 feet and will be carried to the Farmington sand at around 900 feet.

In Valencia County, Harlan and others' No. 1 Harlan, Section 5-6n-2e, is drilling at 2,875 feet. It had a show of gas in sand at 2,800 feet.

WYOMING

Two wells completed in the Lander district in Fremont County, Wyoming, proved the Tensleep horizon of Pennsylvanian age to be productive on the Dallas and Derby Domes. The Dallas Dome Wyoming Oil Fields Co.'s No. 57, Section 13-32-99, on the Dallas Dome, was completed in the Tensleep at 1,150 feet and is producing 250 bbls. a day. The same company also has completed a Tensleep well on Section 4-31-98, on the Derby Dome, making 150 barrels daily at a total depth of 1,325 feet. These were the pioneer wells to the deeper horizon on these two structures. Production heretofore has come from the Embar. The oil is a heavy black grade. In 1928, the Producers & Refiners Corp. completed a 200-bbl. well in the Tensleep at 1,728 feet in Section 19-2-2 in the Hudson Field in the same district. This area some day probably will be tested to the Madison lime, which at present is receiving considerable attention as a result of the bringing in of a 2,400-bbl. well in that horizon on the Frannie Dome in Park County several months ago by the Midwest Refining Co. Another producer in the Tensleep is reported in the Empire State Oil Co.'s No. 1-A SW Section 14-44-98, on the Hamilton Dome in Hot Springs County. Total depth is 2,886 feet and the well is said to be averaging 175 bbls. a day. It will be drilled down to the Madison later on. This is the first test to the Tensleep on this structure. Two completions were reported in the La Barge Field in Sweetwater County both being by the Sackrider-Kuhlman inteersts and both being on Lot 11, Section 3-26-113. The wells, Nos. 2 and 3, are making close to 100 bbls. each per day initial. One completion in Salt Creek was the Midwest Oil Co.'s No. 6-SD-3, SW, Section 26-40-79, deepened from the Lakota to the third Sundance at 2,921 feet. It made 258 bbls. first 24 hours without being shot.

The drilling wells show very few changes from last week, due to cold weather, the holidays, and other factors. The Ohio Oil Co.'s No. 1 Converse Sheep, Section 32-36-65, Niobrara County, a deep test in the Lance Creek Field, has been shut down at 3,122 feet for the winter. Eight of the Producers & Refiners Corp.'s wells are shut down. Most of the operations in the southwestern part of the state, except in Sweetwater County, also are down until spring.

Park County

In Park County, the Midwest Refining Co.'s No. 31 Rosenberg, SW NE Section 25-58-98, Frannie Dome, is drilling at 645 feet in black shale, and the Ohio Oil Co.'s No. 1 Burlington, Section 21-53-101, Shoshone Dome, is fishing for parted pipe at 4,290 feet. In the Oregon Basin Pool, Charles E. Orchard's No. 1 Atherly, SW, cor., Section 33-52-100, is drilling at 2,385 feet and his No. 1 Ownes and No. 7 Rue are still shut down on top of the sand. The Texas Production Co.'s No. 1 Sonners, NW NW Section 29-51-100, is drilling at 3,596 feet and probably will be an early completion.

In Hot Springs County, the Ohio Oil Co.'s No. 1 Smith, Section 9-46-99, Walker Dome, is drilling at 2,965 feet.

In Big Horn County, the Ohio Oil Co.'s No. 1 Union Gas, NE NE Section 22-56-97, Byron Dome, is drilling at 4,496 feet.

In Fremont County, the Texas Production Co.'s No. 1-A State, SW SW Section 36-34-95, Alkali Butte, is drilling at 1,675 feet.

The Midwest's No. 29-DT, NW Section 35-40-79, Salt Creek, a test to the granite, is drilling at 3,015 feet.

In Carbon County, the Midwest Refining Co.'s No. 31 Dutton Creek, SW SE Section 1-18-78, is bottomed at 3,155 feet and running the 8⅝-inch casing. The Producers & Refiners' No. 2 Mahoney Dome, NW, Section 34-26-88, is drilling in the Embar formation at 4,490 feet, and its No. 2 O'Brien Springs, Section 11-24-88, is bottomed at 530 feet and underreaming the 6⅝-inch at 250 feet.

In Sweetwater County, the Mountain Fuel Supply Co.'s No. 1 Union Pacific, Section 11-17-104, South Baxter Basin, is drilling at 2,436 feet, and its No. 1 Sullivan, SW, Section 10-16-104, is drilling at 2,870 feet. Same firm's No. 1 Union Pacific, Section 13-19-104, North Baxter Basin, is drilling at 2,775 feet, and its No. 1 Capper, Section 2-19-104, is drilling at 3,198 feet.

UTAH

The Continental Oil Co.'s No. 1 Boundary Butte, Section 22-43-22, San Juan County, southeastern Utah, is still bottomed at 5,612 feet and has not made any new hole for several weeks. The special string of casing was landed on bottom and cleaning out is in progress. The Midwest Refining Co.'s No. 31 Pary, SW SE, Section 14-39-1w, Kane County, being drilled for the Utah Oil Refining Co., is bottomed at 1,515 feet in a 15½-inch hole and fishing for tools. The Maude Ellen Oil Co.'s No. 1, NW SE Section 28-3s-21, Uintah County, is drilling at 1,860 feet. The Diamond Oil Co.'s No. 4, Section 16-8s-5e, Utah County, is setting 8¼-inch at 1,500 feet to make a water shutoff. The Cisco Springs Syndicate's No. 1 Moss, SE SW, Section 9-20-23, Grand County, has recovered the last bit and is cleaning out at a total depth of 1,985 feet. It is supposed to be just above the Dakota.

COLORADO

The Continental Oil Co.'s No. 4 Scott, NE SE, Section 6-9n-68, on the Wellington Dome in Larimer County, Colorado, reported a completion but not tested several weeks ago, was put on the pump the past week and made 15 bbls. of oil and 200,000 feet of gas. The well was drilled in proven territory and the only significance attached to its completion was the comparatively small production. It topped the Muddy sand at 4,366 feet and was completed at 4,410 feet. The same company's No. 5 Scott, NE NW, Section 6-9-68, spudded January 3 and is drilling at 290 feet. This is the only active operation on the two structures at Fort Collins. The Ball Oil Co.'s No. 1 Ball, NE cor. NW, Section 18-9-68, is still a location. On the Berthoud Dome, the Standard Oil Co. of Colorado's No. 1 Hertha, NW cor., Section 21-4n-69, one location south of the only producing well on the structure, is drilling at 2,700 feet, and the Warner-Mosher Drilling Co.'s No. 1 Reed, SW cor. NW Section 28-4n-69, is drilling at 2,900 feet.

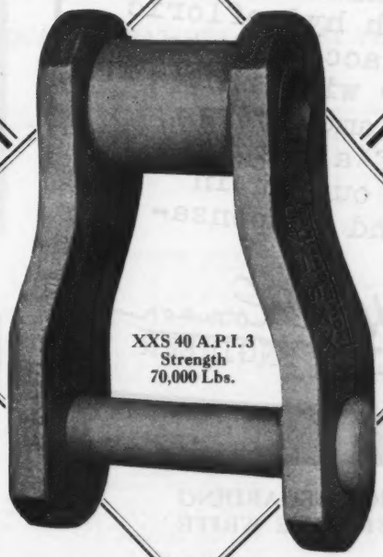
In Moffat County in the northwestern part of the state, the Texas Production Co.'s No. 1 Berlin, SW NE, Section 19-12n-100, Bartram Dome, is bottomed at 2,347 feet and underreaming the 6¼-inch casing. This well, which is the discovery well on this dome and 3 miles to the west of the Hiawatha Dome, has cut 4 gas horizons so far with an aggregate open flow of 72,000,000 feet a day. The Mountain Fuel Supply Co.'s No. 1 Lasher, NE NE, Section 25-12-101, is drilling at 933 feet. On the Iles Dome, the Midwest Refining Co.'s No. 19-SD Parkinson, SW NE, Section 22-4n-92, commenced spudding on January 5 and Thomas McLaughlin and others' No. 1 Williams, NW SW, Section 2-3n-92, is shut down for orders at 4,383 feet. It is bottomed in sandy black shale and is not yet in the Sundance. The tools were lost last month and the

(Continued on Page 138)

HOWE CHAIN

All good products have that essential thing called "balance." In the Howe XXS Chain, balance makes it the strongest chain yet developed. The proper balance between design, material and workmanship enable this rotary chain to stand the shocks and impacts resulting from sudden changes of speed and overloading.

Howe Chains are made by chain specialists who are authorities on materials and construction. Heat treated chrome nickel steel is used throughout. The bushings and pins are press fitted into the sidebars. Alloy steels are particularly adapted to heat treatment and greater strength and wear values are assured. The press fits increase durability and prevent wracking of parts.



XXS 40 A.P.I. 3
Strength
70,000 Lbs.

Republic Supply Company

OIL AND GAS WELL SUPPLIES

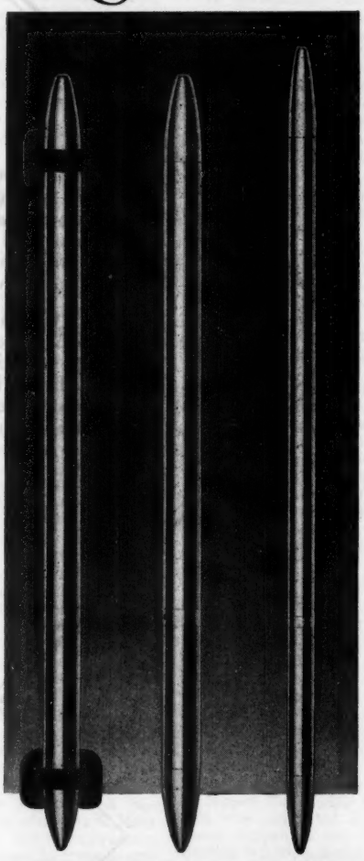
Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

A Prominent Petroleum Engineer's Opinion of The DRIFTMETER

"My impression of the outfit and the tests was that it was very practical, convenient, accurate, and most important of all, eliminates the hazard of working with hydrofloric acid. One accident to an operator with this acid would amount to the cost of a complete Driftmeter outfit in damages, and compensation."

H. B. Romson
PETROLEUM ENGINEER



2 7/8" FOR 8" CASING WITH FINS | 2 7/8" FOR 6" DRILL PIPE WITHOUT FINS | 1 9/16" FOR 4" DRILL PIPE ...

The Driftmeter is an electrical machine for recording the angle of deflection from perpendicular of oil wells.

The recording apparatus, located on the derrick floor, is direct reading, and indicates in degrees the exact inclination of the pipe in the hole. This feature saves time, errors and computation in the field.

The device can be lowered through the drill pipe and any number of readings may be taken without withdrawing the apparatus from the hole. In this manner perpendicular portions of the well may be surveyed quickly, while crooked portions may be read every few feet to determine the exact point at which the hole starts off vertical, and readings can be checked coming out of the hole.

FOR INFORMATION REGARDING SALES AND SERVICE WRITE

Patent Pending

DRIFTMETER Incorporated

616 EXCHANGE BANK BLDG.
TULSA, OKLAHOMA

Complete Best Well in Wheat Field

Loving County Producer Flows 30 Bbls. 42 Gravity Hourly. Ector County Test Shows Gas. Surprise in Pecos County

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 13.—Late news from the field brings the report of the best well completed in the Wheat Field, Loving County. This well is owned by the Independent Oil & Gas Co. and is in the NW cor. of Section 85, Block 1, W.&N.W., one mile east of production. Mr. Wheat is the fee owner of the section under the well. Independent owns all except three forties. Top of the pay of this good well was encountered at 4,280 feet in the Delaware, from which the Wheat pool produces its 42.0 gravity sweet oil, one of the few spots in West Texas producing sweet oil. The well was drilled to a total of 4,317 feet and shut down there flowing 30 barrels every 15 minutes after 140 quart shot from 4,280-4,317 feet. This makes the eighteenth well in the pool to go on production. The former seventeen wells produced a daily average of 980 bbls. for the past week, about one-third as much production as this new well looks capable of making. Such a well drilled on the extreme eastern side of the field, and extending it such a distance opens the pool to many inside tests and also to other tests to the east. The last report from the field gave the well as flowing 30 barrels per hour instead of every 15 minutes.

The California Co. owns all of Section 90, to the north, except the north quarter, and this company will probably announce an offset location within a few days. It also owns all of Section 84, to the southwest, except 80 acres in the southern corner, which is owned by the Pure Oil Co. Lockhart owns the west offset acreage in Section 92, and a location is looked for at once in the eastern corner of this section, offsetting the new discovery. The Phillips Petroleum Corp., Humble Oil & Refining Co. and several independent operators own other nearby acreage.

This pool is one of the oldest in West Texas, having been discovered in September, 1925, and has produced approximately 285,300 bbls. up to the present time. A 4-inch line from the pool to Pecos City transports the crude to a loading rack at that place, where it is loaded on the cars to the Rio Grande Oil Co.'s refinery at El Paso.

Well Near Kermit.

M. J. Bashara's No. 2 Fee, 990 feet from the south and 2,310 feet from the E of Section 17, Block B-3, one mile north of Kermit, and approximately 4 miles NE of the Hendricks Pool, Winkler County, got a lot of attention this week when it struck an estimated 30,000,000 feet of gas at 3,010 feet. The gas was killed twice but blew out, and had to be killed again for drilling to be continued. At present the owners are coring the well at 3,056 feet in soft lime.

Barshara's No. 1 Fee is located on the west offset location and was completed as a 20,000,000 foot gasser at 2,481 feet after topping the heavy gas sand at 2,480 feet and drilling one foot into it. The gas from this well is being sold for drilling and pumping purposes in the nearby fields.

Ector County Wells.

Landreth Production Co.'s No. 1-S, in the NE corner of Section 2, Block 35, Ector County, is now drilling below 3,460 feet in lime after having encountered a slight showing of gas at 3,400-10 feet in lime. This well is believed to be running a little over 100 feet higher than the discovery well of this new pool, and the pay in the well should be picked up around 3,600 feet. The second well of the Penn Pool has been averaging 297 barrels daily for the past four days. It was completed last week at a total depth of 3,785 feet flowing an initial production of 469 bbls. the first 24 hours. It was better than the discovery well, by almost 100 bbls.

Cosden Oil Co., Inc., No. 1-B, in the SE NE of Section 2, Block 35, north of Landreth's 1-S, is drilling at 3,165 feet in anhydrite, and should be completed within a week. Landreth's No. 1-T in the NE Section 3, is also drilling in anhydrite at 3,130 feet and will be due for completion within a week.

Three and a half miles northwest of the Yates Pool, Pecos County, the Cardinal Oil Co. surprised many by completing its No. 1 Toborg, 330 feet from the south and east lines of the E half of the W half of Section 539, Arnold and Barret Survey, for a 300 bbl. well from the astonishingly shallow depth of 370 feet. Top of the pay in this well was found at 355 feet. The well has been shut down for some time, producing around only 25 barrels daily, flowing to storage, but it was deepened a couple of feet to the present depth, the Shell Pipe Line Co. connected a gathering line to the well, and when it was allowed to flow it made the above showing in the first 24 hours, and has continued to make around 300 bbls. per day. Gravity of the oil is only 20.9, and it is reported Shell is giving 50 cents per barrel for it. The Cardinal Oil Co. is drilling its No. 2 and 3 wells north of the present producer.

Yates Pool Extension.

Transcontinental Oil Co. and Arkansas Natural Gas Co.'s No. 1, Matthews 2,310 feet from the N and 1,060 feet from the E of Section 10, Block 194, G.C.&S.F. Survey, is promiisng the extension of the Yates Pool, Pecos County a little over half a mile to the west. It topped the pay at 1,441 feet and is shut down at 1,514 feet, estimated good for 200 bbls. per day. The nearest production to this extension well is on the McMan Oil & Gas Co.'s "C" lease in the section to the east. McMan's No. 6-C, to the east, is producing from a total depth of 1,761 feet, and was completed for a 200 bbl. well.

The Yates Pool cannot run much farther in this direction for the Transcontinental Oil Co. drilled a dry hole in the NE corner of Section 7 on the White and Baker ranch, abandoning that test at a total depth of 2,007 feet. It is one and three-quarters mile to the NW of this last well of Transcontinental and the Arkansas Natural Gas Co.

The Texas Co. and others' No. 1 Campbell, in Section 46, Block 10, H.&G.N. Survey, Pecos County, which was completed on December 12, 1929 for a 65 bbl. pumper, is now being abandoned.

Independent Oil & Gas Co. and Rowan & Tong's No. 1 Phelps in Section 26, Block 11, H.&G.N. Survey, which has been standing shut down for some time at 1,875 feet is to be deepened to the pay found in Landreth Production Co.'s No. 1 Smithpeter in the SE Section 31. The Landreth well topped a small pay at 2,269-74 feet and produced a small amount of oil, but not in commercial quantities.

WEST TEXAS PRODUCTION
Week ending January 11

County—	Wells	Prod.
Crane County	325	35,028
Crockett County	45	1,584
Fisher County	7	1,301
Ector County	4	530
Garza County	5	45
Glasscock and Howard	457	37,888
Jones County	73	2,325
Loving County	17	970
Mitchell County	143	2,330
Pecos County	397	141,836
Reagan County	253	17,045
Runnels County	3	25
Scurry County	5	21
Upton County	245	9,111
Ward County	20	1,780
Winkler County	606	91,117
Total this week	2,605	342,936
Total last week	2,605	343,820
Difference	0	884

Glasscock County

The Amerada Petroleum Corp.'s No. 1 Coffee, 990 feet from the north and 2,310 feet from the west of Section 22, Block 33, Township 2-S, T.&P. Survey, Glasscock County, had a small showing of oil at 2,187-96 feet, swabbed 16 bbls. in four hours, swabbing dry, and was deepened to 2,265 feet after topping a big pay at 2,256 feet and filling with oil, swabbed 216 bbls. in three hours giving the appearance of a good well and extending this pool another quarter of a mile.

Glasscock Brothers' No. 1 Edwards, 3 miles to the west of this well, was deepened to 2,318 feet, from 2,298 feet where it has been producing better than 110 bbls. per day, making 5 per cent water. More water was reported coming from 2,308-15 feet. No noticeable increase in oil was observed. This well is 330 feet from the east lines of Section 18, Block 33, Township 2-S.

Andrews County

The Deep Rock Oil Co. and others' No. 1 Ogden in Section 6, Block A-46, Andrews County, has filled five 500-bbl. tanks and a 10,000-bbl. tank is now erected to take future production. The well is still standing shut down at 4,428 feet, producing around 200 bbls. per day.

Shell Petroleum Corp.'s No. 1 Owens in Section 16, Block 5, in the Shipley Pool, Ward County, is now drilling below 3,180 feet in hard gray lime. It bailed 55 bbls. of oil on January 12 and does not look as favorable as expected. This test is far below the regular Shipley pay, and was once thought to be the discovery of a deeper pay which might add materially to the value of the Shipley Pool and that wells now producing from the regular pay would be drilled deeper if this well encountered a better pay at a greater depth.

Deepest Well's New Record

Texon Oil & Land Co.'s No. 1-B University, the first deep producer in the Big Lake Pool, Reagan County, set another oil peak this week when production went to 2,946 bbls. with 26,827,000 feet of gas. The former peak was 2,915 bbls. set in December, 1929. Since its discovery in December, 1928, it has made the following monthly production totals: December, 1928, 25,299 bbls.; January, 1929, 48,697 bbls.; February, 1929, 53,551 bbls.; March, 1929, 67,052 bbls.; April, 1929, 70,222 bbls.; May, 1929, 78,617 bbls.; June, 1929, 78,331 bbls.; July, 1929, 82,992 bbls.; August, 1929, 84,058 bbls.; September, 1929, 82,252 bbls.; October, 1929, 86,870 bbls.; November, 1929, 84,332 bbls., and Decem-

(Continued on Page 70)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended January 13

Company, farm and location—	Remarks—
ANDREWS COUNTY	
Deep Rock's No. 1 Ogden, 2,310 ft. E, 330 ft. S, Sec. 6, Blk. A-46, Public School Land	Top pay 4,345 ft.; top lime 4,050 ft.; drilled deeper to 4,428 ft.; encountered 300 ft. sulphur water; sulphur water coming from 4,414-28 ft.; flowed and swabbed 205 bbls. fluid, mostly oil, for 24-hr. period ending 7 a.m. January 3; averaging 200 bbls. per day.
BORDEN COUNTY	
Moncrief et al's No. 1 Munger, 1,980 ft. from N and E, Sec. 15, Blk. 31, Twp. 4-N, T.&P.R.R. Sur.	Set 6-in. casing; drlg. 2,425 ft.
Teas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur.	Top salt 1,080 ft.; drlg. 2,525 ft.
BREWSTER COUNTY	
E. W. Bateman et al's No. 2 Nevill, 2,000 ft. S and W line of Sec. 62, Blk. 13, G.H.&S.A.R.R. Sur.	Shut down 2,612 ft.
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Fishing 1,935 ft.
Forrest Oil Co.'s No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Drlg. 1,000 ft.
Grastorf et al's No. 1 Redfield, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.&S.F.R.R. Sur.	Drlg. 760 ft.
Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,740 ft.
COKE COUNTY	
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 2,892 ft.
Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor., Sec. 272, Blk. 1-A, H.&T.C. Sur.	Pay 3,755-56 ft.; fishing 4,255 ft.
CONCHO COUNTY	
Duffy et al's No. 1 Callan, 1,520 ft. N and 1,120 ft. W of SE cor., Sec. 21, Blk. 10, H.&T.C.R.R. Sur.	Spudded and shut down.
Turner et al's No. 1 Borsig, 150 ft. from S of SE cor., G. Emmig Sur. 130, 6 mi. W of Paint Rock	Shut down 735 ft.
CRANE COUNTY	
Church & Field's No. 5 University-Duall, 990 ft. from W, 1,650 ft. from S, Sec. 39, Blk. 30	Drlg. 760 ft.
Church-Weekly's No. 1 University, Sec. 34, Blk. 30, 2,310 ft. from N and E, University Land	Top salt 1,145 ft.; drlg. 1,650 ft.
Duffey et al's No. 7 Cowden Bros., 1,320 ft. from S and 1,420 ft. from E of Sec. 18, Blk. X, C.C.S.D.&R.G. N.G.R.R. Sur.	Drlg. 425 ft.
Humble Oil & Ref. Co.'s No. 1-E University, 2,310 ft. from N and 930 ft. from E, Sec. 40, Blk. 30, University Land	Top salt 1,020 ft.; drlg. 1,890 ft.
Simms and Atlantic's No. 1 University, 2,310 ft. from N, 990 ft. E, Sec. 39, Blk. 30, University Land	Rigging up.
Tidal Oil Co.'s No. 3 University-E, 330 ft. N and E of SW cor. E half of NW, Sec. 39, Blk. 30, University Land	Top salt 1,050 ft.; top pay 2,895 ft.; drlg. 2,920 ft.; 200 ft. oil in hole.
Warner-Quinlan Co.'s No. 7 University, 990 ft. S and 330 ft. E of NW of E half SW, Sec. 39, Blk. 30, University Land	Shut down 2,650 ft.
Warner-Quinlan Co.'s No. 8 University, 990 ft. S and 330 ft. W of NE cor. of SW, Sec. 39, Blk. 30, University Land	Location.

(Continued on Page 110)

Weather Aids Proration in North Texas

Gray County Production Decreased 6,250 Bbls. Sigler Pool, Wilbarger County, Deep Sand Development Boosts Output

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 13.—Although not all of the producers in the flush production pools of Gray County have agreed to the 20 per cent proration plan production figures this week are rather evident that the plan has taken effect. Production decreased more than 6,250 bbls., helping to bring the Panhandle production down a total of 6,702 bbls., from 100,831 bbls. the past week to 94,129 bbls. this week.

Danciger Oil & Refining Co. and Champlin Refining Co. completed a good well in their No. 3 Cook-Faulkner at a total depth of 2,826 feet after topping the first pay at 2,700-05 feet and encountering an increase at 2,822-26 feet. During the first 16 hours it flowed 1,600 bbls. with 15,000,000 feet of gas. It is now prorated. The Texas Company completed the only other good well of the week, No. 17 Saunders, shut down at 2,524 feet after encountering the pay at 2,495-2,505 feet. The initial production of this well was 1,057 bbls. of oil, 10 per cent water, with 3,000,000 feet of gas.

Blizzards in the Panhandle and Wichita Falls districts aided in prorating the fields and curtailing developments, and although drilling has started on many new locations, and many wells were about ready to be completed the severe weather acted as umpire and shut many of the wells down. Many field reports read, "frozen water lines."

Pipe line runs from the Wichita Falls district showed an increase of 2,638 bbls. over the previous week despite the proration of the pools in the Waggoner Pasture, Wilbarger County. Humble Pipe Line Co. and the Sinclair Crude Oil Purchasing Co. formerly prorated this area 50 per cent, running 50 per cent of the oil to storage and purchasing the other 50 per cent, but beginning January 14 the Sinclair Crude Oil Purchasing Co. is to return to 100 per cent runs. The Texas Pipe Line Co. has never prorated its runs, but continues to run 100 per cent.

The deep sand development in the Sigler Pool, Wilbarger County, was the cause for a big boost in production in the county during the past few weeks. There were 11 producers completed in the county which helped run up the production from 30,861 bbls. to 31,416 bbls. this week. Young County also received several new producers in the area north of Olney, and the daily average of the county also increased about 900 bbls.

In North Central Texas or Ranger district the Lone Star Gas Co. completed an unexpected oiler this week in its No. 1 McKelvain which is approximately in C E half, Section 2, S.P.R.R. Survey, Block C. Top of the sand in this well was contacted at 3,485 feet, and the well blew in with 8,000,000 feet of gas and 600 bbls. of oil, catching fire and burning for over 24 hours. The Lone Star company was drilling for another gas well in this area where gas alone is produced and run into the company's lines to supply surrounding towns, and when the large amount of oil came in with the gas it was a great surprise. No doubt this new find will stimulate companies owning nearby acreage to start drilling for oil sands instead of gas, and Stephens County will probably feel the effects of this new discovery.

The Lloyd or Stewardson Pool in southern Coleman County, which has been one of the most interesting spots of the county for the past several weeks, averaged 256 bbls. of oil per day in December, 1929. Although the wells are not large the oil is sweet and of high gravity, helping to make them profitable and the oil desired by purchasers and pipe line companies.

The Tidal Oil Co. has completed its No. 1 Stewardson flowing about 80 bbls. per day, and is now completing its No. 2 Stewardson. It encountered top of the sand at 1,422 feet and drilled to a total depth of 1,445 feet where it filled up 700 feet of oil in four hours. This well is estimated good for around 125 bbls. daily, and will help build up the daily average of the pool.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending January 13

CARSON COUNTY

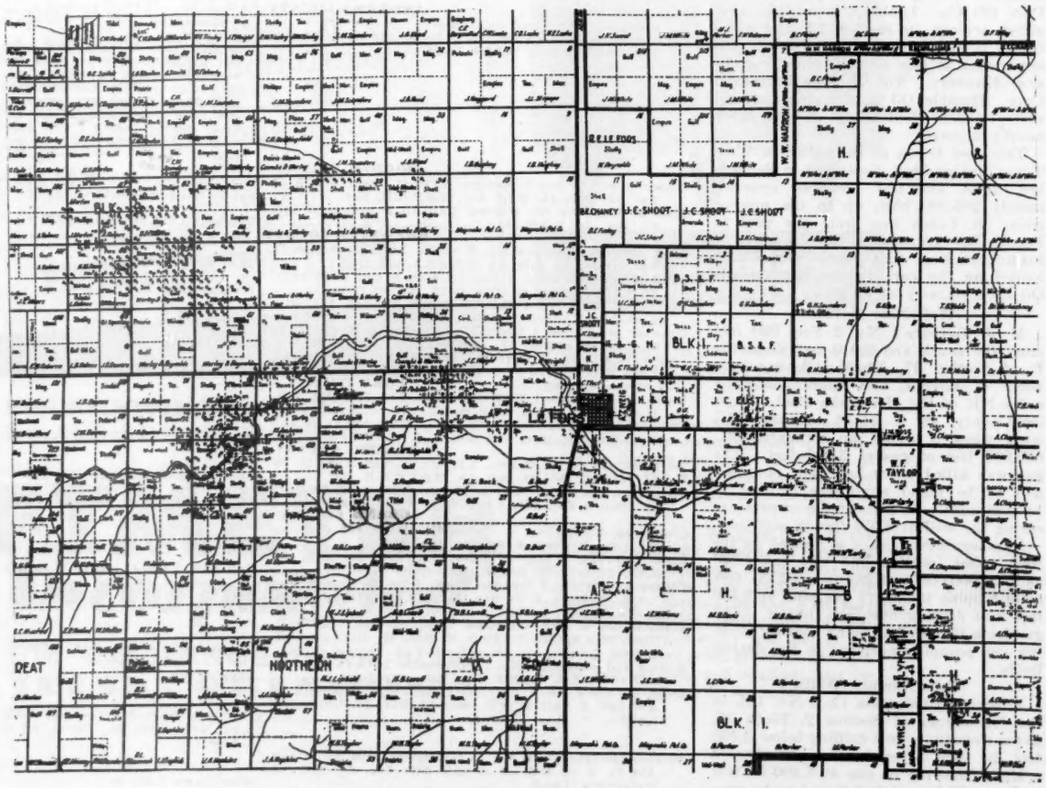
Company, well, farm, name, section and block—	Remarks—
Champlin Ref. Co.'s No. 5 McConnell, 990 from S line and 330 ft. from W line of N 120 acres of NW Sec. 67, Blk. 4, I.&G.N. Sur.	Rigged up.
Danciger O. & R. Co.'s No. 1 Block, 330 ft. from N and E lines, Sec. 112, Blk. 4, I.&G.N. Sur.	S.D. 2,985 ft.
Delmar Oil Co.'s No. 5 Noel, 330 ft. S and W, NE cor. W½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	S.G. 3,000-10 ft; S.D. 3,131 ft.
Empire G. & F. Co.'s No. 1 Fields, 1,650 ft. from N and E, Sec. 13, Blk. 7, I.&G.N. Sur.	Fishing 2,400 ft.
Empire G. & F. Co.'s No. 2 Deahl, 660 ft. N and E, SW, Sec. 3, Blk. 5, B.&B. Sur.	Drlg. 2,820 ft.
Empire G. & F. Co.'s No. 1 Thorp, C NW, Sec. 26, Blk. T, A.B.&M. Sur.	Drlg. 1,480 ft.
Ham Oil Co.'s No. 1 Cooper, 330 ft. from S and W, E½ NE, Sec. 5, Blk. 9, H.&G.N.R.R. Sur.	S. D. 2,598 ft.
Herragan Oil Co.'s No. 1-A McConnell, 330 ft. from N and W, W½ SW, Sec. 187, Blk. 3, I.&G.N.R.R. Sur.	S.D. 3,200 ft.
S. D. McElroy's No. 1 Block, 330 ft. from N and E, NE NW, Sec. 112, Blk. 4, I.&G.N.R.R. Sur.	T.D. 3,006 ft; 800 ft. oil in hole; sbd. 50 bbls.
McClintock et als' No. 2 Garner, 330 ft. W and S of E 55 ac., of N 80 ac., NW, Sec. 105, Blk. 4, I.&G.N.R. R. Sur.	Rig.
McMan O. & G. Co.'s No. 1 McConnell, 330 ft. from N and E, E½ SW, Sec. 187, Blk. 3, I.&G.N.R.R. Sur.	Drlg. 3,184 ft; 800 ft. oil in hole; T.P. 3,175 ft.
Osborne et als' No. 3 Percival, 330 ft. N and W, SE cor. E½ NE, Sec. 199, Blk. 3, I.&G.N.R.R. Sur.	Location.
Pansota Oil Co.'s No. 1 Block, 330 ft. S and W, NE cor. SW, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 1,280 ft.
Prairie O. & G. Co.'s No. 2 Nail, 330 ft. from N and W lines, N½ E½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	10,000,000 ft. gas 3,830-3,986 ft; S.D. 3,112 ft.
Red River Gas Co.'s No. 3 Lee Bivins-A, C SE SE. Sec. 43, Blk. M-20, G.&M.R.R. Sur.	S.D. 2,090 ft.
Ryan Cons. Oil Co.'s No. 7 Block, 330 ft. N, 990 ft. W, SE cor. NE, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 2,275 ft.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E, SE, Sec. 199, Blk. 3, I.&G.N. Sur.	Rig.
Skelly Oil Co.'s No. 19 Schafer, 330 ft. N, 990 ft. E. SW cor. NE, Sec. 198, Blk. 3, I.&G.N. Sur.	6,000,000 ft. gas 3,895-3,970 ft; S. D. 3,100 ft.

(Continued on Page 109)

NORTH TEXAS PRODUCTION
Week ending January 11

Panhandle District—	Prod.
Carson County	9,300
Hutchinson County	25,702
Gray County	58,015
Moore County	588
Potter County	....
Wheeler County	524
Total this week	94,129
Total last week	100,831
Decrease	6,702
Wichita District—	
Archer County	18,305
Baylor County	360
Clay County	990
Cooke County	5,421
Foard County	200
Jack County	4,700
Haskell County	75
Montague County	6,396
Throckmorton County	691
Wilbarger County	31,416
Young County	7,970
Wichita County	25,583
Total this week	102,107
Total last week	99,469
Increase	2,638
Ranger District—	
Brown County	9,080
Callahan County	3,711
Coleman County	5,820
Comanche County	1,200
Palo Pinto County	555
Eastland County	5,025
Shackelford County	9,388
Stephens County	5,550
Total this week	40,129
Total last week	40,699
Decrease	570
Grand total this week	236,365
Grand total last week	240,999
Decrease	4,634

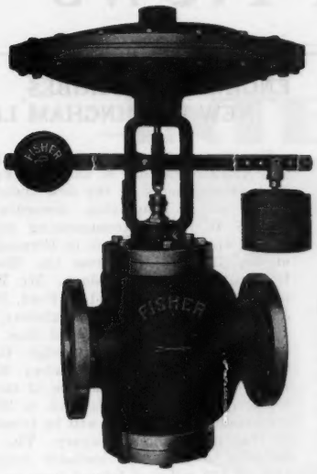
(Continued on Page 105)



Map by courtesy of the Heydrick Mapping Company.

Plat showing the LeFors, Finley-Brown and Bowers Pools in Gray County, Texas. This area has been the most interesting of any in the Panhandle district during the year, finally reaching such production proportions that the pools were finally put under proration in the first week in January, 1930.

The BIG 3 *for Service*



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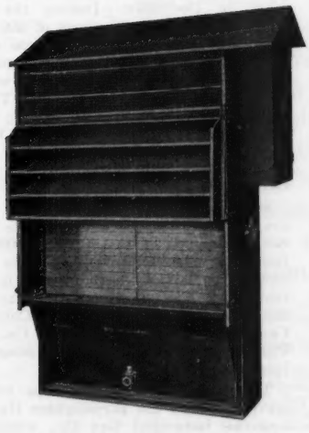

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Pipe Line Construction News

TUBULAR SHIPMENTS HEAVIER IN JANUARY

By B. E. V. Luty

PITTSBURGH, Pa., Jan. 13.—Many pipe and tube mills were closed entirely for portions of the two weeks comprising the two holidays, and accumulated some orders, whereby they had a fair operation last week, probably in the neighborhood of 40 per cent, and a better operation than they were having just before the holidays. To an extent this was a temporary spurt, due to the accumulation, but the mills do not expect to have much decrease, if any at all, this week. Judged by the manner in which orders and specifications are coming in, and the general outlook, mills expect January as a whole to show decidedly heavier shipments of tubular goods than did December. This, of course, is largely simply the seasonal turn.

It is the opinion in the pipe trade that there will be a great deal of building this year involving the use of standard pipe, the work running to large structures, which require relatively more pipe than small structures. Favorable reference is made by some of the pipe producers to President Hoover's work in this connection.

As to oil country tubular goods, the successful operation of conservation programs in fields of the Mid-Continent area and in California still leaves a fair volume of demand for tubular goods in certain particular connections. A moderate and slowly increasing demand is regarded as probable.

Line pipe inquiry is not nearly as strong as it was last year, but there are prospects of a moderate volume of business, various projects being on foot. Financing is not expected to present any great difficulties.

The steel trade in general, outside of pipe, has experienced a greater improvement in demand than has pipe, but some of this is probably an illusion, arising from requirements that accumulated while buyers were curtailing stocks against the January 1 inventory. More commonly there has been such improvement after January 1 that steel production reached its peak in March, with such heavy production that there were declines thereafter. Reports of large improvement in steel should be received with reserve, particularly in view of the fact that in previous years, when general conditions were altogether good, there was sometimes disappointment early in February that trade had not continued increasing as it did during the first two or three weeks of January. That was the showing in 1926, for example, for while the year was a very good one all around the daily rate of steel production was actually a trifle lower in February than in January.

Last year there was a very marked bulge, covering the latter part of 1928 and approximately the first nine months of 1929. The extent and character of the bulge is brought out simply by the fact that from 1920 to 1926 steel production increased 15 per cent, or 2½ per cent a year, whereas the 12 months, October, 1928, to September, 1929, inclusive, showed 21 per cent more production than the calendar year 1926. Obviously that was too strong to last. There was a special combination of circumstances which could not be expected to work indefinitely.

Pipe prices are holding very well indeed, but the same cannot be said of all other finished steel products, there being various little weaknesses.

PLAN NATURAL GAS LINE IN SOUTHWESTERN IDAHO

Upon his return to Salt Lake City from the hearing before the Idaho Public Utilities Commission L. Fitzpatrick, vice president and general manager of the Utah Gas & Coke Co., announced that it is planned to expend approximately $3,500,000 and employ about 1,000 men to lay a pipe line for distribution of natural gas in cities, towns and villages of southeastern Idaho. The application for a certificate of convenience and necessity was filed some time ago and the hearing recently held before the commission in Idaho.

"It will be about two months before the Idaho commission renders a decision upon the matter," Mr. Fitzpatrick says, "and if the certificate is granted, the petitioners—John McFadyen, president of the Mountain Fuel Co. and vice-president of the Ohio Oil Co., and L. B. Denning, president of the Utah Gas & Coke Co., the Ogden Gas Co. and the Wasatch Gas Co.—will form an Idaho corporation and petition for franchises in the communities. It is proposed to extend the gas line from Ogden into Idaho. Should the preliminary plans of the petitioners be a success, work will be commenced as soon as necessary equipment can be assembled."

PRAIRIE LOOPING LINE TO OKLAHOMA CITY

The Prairie Pipe Line Co. has started work on looping its pipe line to the Oklahoma City Field. The present line is an 8-inch which will be looped with another of the same size. The company is also building an 80,000-bbl. tank at its Doliver station, at the Oklahoma City Pool. The Prairie Pipe Line Co. advises the additional pipe capacity is being installed in the interests of economy, and to equalize the shipment of oil from the Oklahoma City Pool. In the past when new wells have been completed in the pool the pipe line company was expected to handle from 20,000 to 40,000 bbls. of flush oil from the new wells, while the next day the runs would be cut in half. It is not the intention of the Prairie Pipe Line Co. to increase its runs of crude oil in the pool at this time.

The new line is being built to lower the working pressures of the Prairie's present 4 and 6-inch lines serving the Oklahoma City Field. The Prairie is forced to use high pressures to take care of all the oil it is offered there, sometimes applying 800 to 1,000 pounds, and under the new unit, it can take care of the same volume of oil and use but 500 to 600 pounds.

MISSISSIPPI FUEL TO EXTEND ITS LINES

More than 20 cities and towns of Arkansas and Missouri will be supplied soon with natural gas by the Mississippi River Fuel Corp.'s 526-mile pipe line, which is furnishing the needs of the St. Louis industrial district from the northern Louisiana fields. The communities, most of which are being equipped with gas mains for the first time, will be served by three operating companies, which will purchase 2,000,000,000 cubic feet of gas annually from the fuel company, which is owned by a syndicate comprising the Standard Oil Co. of New Jersey, the United Gas Co., the Electric Bond & Share Co. and other interests.

The fuel company will supply the industrial demands of the St. Louis district with 100,000,000 cubic feet of natural gas daily. It is building branch lines from the main line of Stuttgart, Warren, Monticello, England, Lonoke and other Arkansas towns for delivery to the Arkansas Natural Gas Corp. The Arkansas Power & Light Co., a subsidiary of the Electric Power & Light Corp., is preparing to supply gas to Jonesboro, Searcy, Kennett, Hoxie, Walnut Ridge, Newport and other towns in northern Arkansas.

The Missouri Natural Gas Co., subsidiary of the Utilities Power & Light Corp., will supply Poplar Bluff, Fredericktown, Crystal City, Farmington, Festus and other Missouri points.

LANDRETH LINE SOLD TO SHELL PETROLEUM

FORT WORTH, Tex., Jan. 13.—One of the largest features in West Texas is in the process of consummation, the purchase of Landreth Production Corp.'s 8-inch line, gathering system and field storage in the Taylor-Link Pool, Pecos County, by the Shell Petroleum Corp. Mr. Landreth built this line from the pool to the western edge of McCamey, a distance of about 14 miles, also building four 80,000-bbl. steel storage tanks near the field, and 10 such tanks on the tank farm near McCamey. Mr. Landreth is retaining the tanks at McCamey, but transferring the two in the field to Shell. The contract reads that the Shell Petroleum Corp. is to take 15,000 bbls. of crude daily from the Landreth Production Corp. The latter company does not have this much daily production at the present, but, in case it does produce that much or more, 15,000 bbls. will be transported by the pipe line purchaser. Landreth has about 180,000 bbls. of crude in storage in the tanks at the field and Shell has agreed to purchase this oil, but is not to take the crude in storage at McCamey, which is already under contract.

A connecting line will be run from the Landreth line to Shell's tank farm on the east side of McCamey, a distance of about a mile and a half. Shell Pipe Line Co. has one 10-inch line running from this terminal to Healdton, Okla., and one 10-inch line running to Houston, Tex. Crude from Winkler County is transported by a 6-inch line. Shell Pipe Line Co. has a 6-inch line running from Winkler County to McCamey, bringing Winkler County crude to the terminal, where it is carried by one of the 10-inch lines to Healdton or to the Gulf Coast.

ARGUS PIPE LINE CO. COMPLETING KANSAS LINE

DODGE CITY, Kans., Jan. 13.—Argus Pipe Line Co. is now completing approximately 200 miles of line of which 85 miles is 8-inch and the balance smaller. The main line is to distribute gas in 15 towns in southwestern Kansas including Dodge City, Fort Dodge, Cimarron, Ensign, Montezuma, Copeland, Sublette, Satana, Moscow, Hugoton, Rolla, Elkhart, Meade, Plains and Fowler. Gas is now being delivered to all but two or three of these towns and over 500 meters have already been connected, the population to be served being approximately 20,000. The entire cost of the project will be approximately $2,000,000. Moody Seagraves Co. of Houston, Tex., owns the controlling interest.

Gas is being produced in a field at Hugoton, Kans., already proven for a distance of 15 miles north and south and 10 miles east and west, making it the largest gas field ever uncovered in Kansas.

The wells are approximately 2,600 feet deep with over 100 feet of producing sand. Four wells have been completed running 5,000,000 to 15,000,000 feet each and four additional wells are drilling with other wells being started.

Gas is being distributed through a subsidiary, the Argus Gas & Fuel Co. Argus production controls approximately 75,000 acres of proven land upon structure.

ENGINEER DESCRIBES NEW BIRMINGHAM LINE

Bringing natural gas to Birmingham and Atlanta was one of the most significant developments in the new industrial South in a generation, according to George W. Bacon, commenting on the formal opening this week in Birmingham of the 325-mile line from the Monroe-Richland Field in Louisiana. Mr. Bacon is chairman of the board of Ford, Bacon & Davis, Inc., New York engineers, who constructed the line in record time. The project was financed through G. L. Ohrstrom & Co., Inc., and Halsey, Stuart & Co. Work on the extension of the line to Atlanta, 137 miles farther, is 96 per cent completed and gas will be turned on in that city late in January. The $25,000,000 project also includes construction of 475 miles of lateral lines to more than 30 towns in Mississippi, Alabama and Georgia, all of which have been finished or are under construction.

The completed line will be the longest in operation in this country and, although it was finished to Birmingham in the comparatively short time of eight months, involved some of the most severe engineering difficulties ever met by his company, according to Mr. Bacon. In addition to the hilly country encountered over a great part of its length, the contractors were forced to carry it across 17 rivers, the largest of which was the Mississippi. In this crossing a multiple line was sunk in the river bottom, its eight sections joined on either side by "headers" to guard against possible damage. The whole was arched against the current. The multiple line idea was used in the other crossings, the number of sections being four in most cases. Other difficulties encountered were 27 inches of rain during November and 3 inches of snow in December. During the last stages of the work 20 gangs of 300 men each were used, working in three shifts during most of December. Subcontractors who contributed a major share to the work included Williams Brothers, Tulsa; Oklahoma Contracting Co., Tulsa.; Hope Engineering Co., Mount Vernon, Ohio; Sheehan Pipe Line Construction Co., Tulsa, and A. M. Lockett & Co., New Orleans, La.

Southern Natural Gas Corp. has a 20-year contract with producers in the Monroe-Richland Field to supply 150,000,000 feet daily through its new line. This field, one of the largest in the world, is controlled by Electric Bond & Share Co., Standard Oil of New Jersey, Columbia Carbon Co., United Carbon Co., the Palmer Corp. and the Moody-Seagraves interests.

Birmingham and its environs will be served through the Birmingham Gas Co. and the Industrial Gas Co., while Atlanta and nearby towns will be served through a subsidiary of the Central Public Service Corp.

LINE TO VICKSBURG

Southern Natural Gas Corp., a subsidiary of Tri-Utilities Corp., has completed its branch line to Vicksburg, Miss., which has a population of approximately 21,000, and is now supplying the latter with natural gas, it was announced yesterday. The branch line of 6-inch pipe, about 27 miles long, to Vicksburg, was constructed in record time and connects with Southern Natural Gas Corp.'s main interstate transmission line extending from the Monroe and Richland gas fields in northeastern Louisiana through Mississippi and Alabama to Atlanta, Ga. It is estimated that sales of natural gas to Vicksburg consumers will approximate 500,000,000 cubic feet annually.

INTERCHANGEABLE LEGS

...and other..

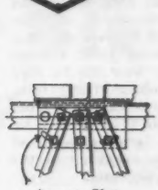
Desirable Features of the K.M. CO. A.P.I. DERRICK

Legs are uniform and interchangeable, providing facility and economy in erecting derrick. Gusset plates used at all leg splices are of one-piece, special quality flanging steel and inner splice angles are milled to fit the fillet of the derrick leg. One size bolt for all connections. A.P.I. Specifications are the watchword of construction.

This derrick is a new Kirk-Morrow product and incorporates in its design twenty-five years of experience in supplying the needs of the oil industry. The painstaking preparations for its manufacture guarantee its place among the rest of KM CO.'s widely used and endorsed products. Available at all warehouse points.

PRODUCTS

Steel Derricks, Rig Irons, Bull Wheels, Calf Wheels, Band Wheels, Crown Blocks, Tug Wheels, Sand Reels, Steel Tankage, Tank Fittings, Refinery Equipment, Steel Plate Construction.



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Sales Offices: Hunt Bldg., Tulsa, Oklahoma; Magnolia Bldg., Dallas, Texas; Central Bldg., Wichita, Kansas.

WEST TEXAS FIELDS

(Continued from Page 65)

ber, 1929, 88,292 bbls., and 19,976 bbls. for the first seven days in January, 1930. The steady gain for the first six months on production may be readily noted. December, 1929, was the peak month.

Cranfill & Reynolds' No. 1 Bledsoe, 330 feet from the north and east of the SW SE, Section 200, Block 1, B.B.B.&C. Survey, northeastern Fisher County, looks as if it may extend production one-half mile east. Elevation of this test is 1,798 feet. It had its first showing of oil at 3,095 feet, and is now shut down. There have been no late reports on this well, but another week will probably give a better idea as to what the well will promise, one way or the other.

Adams, Ferguson & Hobbs' No. 1 Lowe in the NW cor., Section 19, League 120, Guadalupe County School Lands, was deepened to 2,390 feet and is flowing to storage at the rate of 125 bbls. daily. Gravity of this oil tests 36.6, making the oil especially desired, although there is no pipe line company that has offered or signified that it would take the production.

Four miles to the north Dunigan and Shell Petroleum Corp.'s No. 1 Davidson (French) is now being served by a 2-inch line which was built by Dunigan Brothers to a six-car loading rack near the town of Tye on the Texas & Pacific Railroad. This line may later be extended to the second well of this area to take its production also.

Taylor County Pool

These two wells have opened up the first oil pool in Taylor County, and the untested intervening acreage between the two discovery wells looks good for solid production. The accompanying plat will show the acreage ownership, and how the intervening acreage is cut up into rather small units. Lack of pipe line facilities is evidently curtailing the testing of this acreage.

Brown and Fox, owners of No. 1 Tankersley, in the small sweet oil pool southeast of Mertzon, Irion County, have built a 2-inch line from their small producer on the Tankersley farm to a loading rack on the Orient Railroad west of Mertzon and will ship out the oil produced from this area by tank car. It is not known who has contracted to take the production, but it is believed the San Angelo Refining Co. which has a small refinery at San Angelo is to get the oil.

Many will be interested in the test which the Texas Pacific Coal & Oil Co. is to make on the Belcher ranch in Section 10, Block 4½, G.C.&S.F. Survey, 7 miles northeast of the town of Rankin in Upton County. The Shell Petroleum Corp. core drilled this area, and the test is supposed to be located on a core drill structure, and to be drilled to 4,000 feet unless oil in paying quantities is found at a shallower depth. The Shell is reported to have donated $10,000 toward the drilling of the test.

Oil to Storage

For the first time in weeks oil went to storage in the Permian Basin. Only the small amount of 99 bbls. daily was run to the tanks, but this is in contrast to the several thousand barrels per day which have been running from storage for a long time. This was due to pipe line runs being cut about 7,200 bbls. daily. Shipments in tank cars increased 827 bbls. while runs to West Texas refineries increased the large amount of 7,070 bbls., practically evening up the difference in pipe line decrease.

WEST TEXAS COMPLETIONS
Week Ending January 11

Crockett County

T. P. Coal & Oil Co.'s No. 1 Shannon, located 330 feet from south and west of Section 44, T.C.R.R. Survey, was temporarily abandoned at 3,695 feet.

Jones County

Mid-Tex Oil Co.'s No. 1 Minter was drilled to a total depth of 2,650 feet and was dry and abandoned.

Pecos County

Taylor-Link Oil Co.'s No. 9 University, located 990 feet north and 2,310 feet west of SE of Section 31, Block 16, University Land, was drilled to a total depth of 1,670 feet, topped the pay at 1,665 feet and had an initial production of 32 bbls. pumping. The Texas Company's No. 1 Graef, located in Section 44½, Block 12, H.&G.N.R.R. Survey, was dry and abandoned at 1,775 feet.

Tom Green County

Fuhrman Petroleum Corp.'s No. 1 Lewis & Wardlaw, located 2,650 feet from north and east of Section 6, Block 17, H.&T.C.R.R. Survey, was dry and abandoned at 1,501 feet.

Upton County

T. P. Coal & Oil Co.'s No. 14-H Lane, located 990 feet north and 2,310 feet west of SE cor. of Section 5, G.C.&S.F.R.R. Survey, was drilled to a total depth of 2,060 feet, was plugged back to 2,052 feet, topped the pay at 2,010 feet and had an initial production of 45 bbls. daily, 5 per cent water.

Ward County

Atlantic and Delmar Oil Co.'s No. 6 Hayzlett, located in Section 17, H.&T.C. R.R. Survey, topped the pay at 2,508 feet, was drilled to a total depth of 2,523 feet, was shot with 180 quarts from 2,475-2,523 feet and had an initial production of 60 bbls. on pump. Shipley and others' No. 3 Hayzlett topped the pay at 2,489 feet, was drilled to a total depth of 2,505 feet, shot with 100 quarts at 2,462-2,500 feet and shot again with 270 quarts from 2,465-2,500 feet and was again shot with 70 quarts from 2,470-2,505 feet and had an initial production of 22 bbls.

PIPE LINE RUNS
December 25, to January 1
Runs Through Trunk Lines

	Last period
Atlantic P. L. Co., Port Arthur	26,500
Gulf P. L. Co., to coast via Ranger	35,728
Humble P. L. Co., Comyn, Tex.	35,498
Hum le P. L. Co., Ingleside	43,605
Illinois P. L. Co., Del Rio, Tex.	44,701
Magnolia P. L. Co., De Leon, Tex.	19,990
Pasotex P. L. Co., El Paso, Tex.	8,176
Shell P. L. Co., to Healdton, Okla.	40,163
Shell P. L. Co., to Houston, Tex.	6,535
The Texas Company, Houston, Tex.	22,155
Total	283,054

Tank Car Shipments

Landreth Prod. Co., Crossett	107
Reagan County Pur. Co., McCamey	792
Thomas & Brann, Grant City	100
Orient Co., McCamey	100
American Pet. Co., Pyote	....
Southern Crude O. P. Co., Wickett	18,143
Total	19,242

Runs to West Texas Refineries

Bluebonnett Ref. Co., Wickett	....
Burford Ref. Co., Pecos	4,600
Col-Tex Ref. Co., Colorado	7,500
Cosden Ref. Co., Big Spring	11,899
Great Western Ref. Co., Big Spring	3,399
Humble Oil & Ref. Co., McCamey	....
Mid-Tex Ref. Co., Midland	....
Tonkawa Ref. Co., Pyote	2,880
Big Spring Ref. Co., Big Spring	2,345
Richardson Ref. Co., Big Spring	4,385
Wickett Ref. Co., Pyote, Tex.	125
Total	37,133

Summary

	Last period	This period
Pipe line runs through trunk lines	300,258	283,054
Tank car shipments	18,415	19,242
Runs to West Texas refineries	30,063	37,133
Total daily distribution	348,736	339,429
Total daily production	338,791	339,528
Daily average from storage	9,945	99

DAILY AVERAGE PRODUCTION BY LEASES
WINKLER COUNTY
Week Ending January 7

Company, farm, section block—	Wells	Prod.
Amerada Pet. Corp.:		
Cowden, 3, B-12	3	23
Atlantic O. P. Co.:		
Hendricks-A, 34, B-2	8	1,649
Hendricks-B, 44, 26	6	553
Hendricks-D, 29, B-5	7	747
Hendricks-E, 41, B-5	5	531
Hendricks-G, 46, 26	1	20
Hendricks-F, 40, 26	12	458
Bankers Prod. Co.:		
Hendricks, 30, B-5	1	....
V. T. Bolin:		
Brown-Altman, 4, B-5	1	4
California Co.:		
Hendricks, 29, B-5	7	487
Continental Oil Co.:		
Hendricks, 33, 26	4	372
Hendricks-A, 29, 26	2	162
Hendricks-B, 34, 26	2	3
Cranfill & Reynolds:		
Hendricks-A, 28, B-5	2	157
Hendricks-B, 33, B-5	1	70
Hendricks-C, 33, 26	2	347
Hendricks-E, 33, 26	2	131
Cranfill & Texon:		
Hutchings, 47, 26	2	271
Culberson Bros.:		
Hendricks, 40, B-5	1	58
Eastland Oil Co.:		
Hendricks, 35, B-5	2	329
Hendricks-B, 46, 26	1	132
Gulf Prod. Co.:		
Hendricks-A, 34, B-5	13	4,784
Hendricks-B, 45, 26	11	2,814
Hendricks-C, 40, B-5	6	434
Hendricks, 44, 26	3	539
Cowden, 3, B-12	3	95
Humble Oil & Ref. Co.:		
Hendricks-A, 34, B-5	16	3,544
Hendricks-B, 29, B-5	6	1,313
Hendricks-C, 32, 26	8	395
Hendricks-D, 41, 26	1	330
Hendricks-B, 39, 26	3	155
Hendricks-C, 10, B-12	13	5,940
Walton, 8, 26	1	93
Independent Oil & Gas:		
Hendricks-A, 34, B-5	7	728
Howe-B, 44, 26	3	111
McCabe, 36, B-5	2	156
Vardeman-B, 41, B-5	5	236
Lion Oil Co.:		
Hendricks-A, 41, B-5	11	1,128
Hendricks-B, 34, B-5	13	2,685
Hendricks-C, 45, 26	14	3,748
Hendricks-D, 44, 26	1	79
Magnolia Pet. Co.:		
Hendricks, 29, B-5	8	357
May Prod. Co.:		
Hendricks, 34, 26	1	10
American Maracaibo:		
Hendricks-A, 28, B-5	1	18
Hendricks-B, 28, B-5	2	40
Mining & Engineering:		
Hendricks, 10, B-12	1	....
Murchison & Cranfill:		
Hendricks-A, 35, B-5	2	281
Hendricks-B, 35, B-5	3	448
Hendricks-C, 35, B-5	1	....
Hendricks-H, 35, B-5	1	513
Hendricks-I, 34, 26	1	91
Republic Prod. Co.:		
Hendricks-A-B, 45, 26	12	942
Hendricks-C, 41, B-5	5	53
Prairie Oil & Gas Co.:		
Hendricks, 40, 26	6	1,198
Cowden, 3, B-12	6	1,608
Shell Pet. Corp.:		
Hendricks-A, 45, 26	6	398
Hendricks-B, 29, B-5	6	2,319
Hendricks-C, 29, B-5	8	396
Hendricks-D, 41, B-5	6	80
Hendricks-E, 40, B-5	3	140
Hendricks-F, 46, 26	8	218
Hendricks-G, 39, 26	1	64
Shell-The Texas Company:		
Cowden-A, 3, B-12	6	1,294
Hendricks, 45, 26	6	2,600
Hendricks-A, 29, B-5	11	615
Hendricks-B, 40, 26	6	107
Hendricks-C, 40, 26	6	1,074
Hendricks-D, 40, 26	6	183
Hendricks-E, 39, 26	4	91
Skelly Oil Co.:		
Hendricks, 40, 26	12	3,009
Hendricks-B, 10, B-12	2	15
Hendricks-C, 30, 26	1	58
Southern Crude:		
T-67 Hendricks-A, 42, B-5	3	103
T-67 Hendricks-3-A, 4, B-12	4	346
T-67 Hendricks-B, 44, 26	5	350
T-67 Hendricks-3-B, 33, 26	4	542
T-67 Hendricks-C, 33, B-5	5	465
T-67 Hendricks-2-D, 27, 26	5	780
T-67 Hendricks-F, 42, B-5	4	82
T-67 Hendricks-F, 33, B-5	5	403
T-88 Hendricks-3-A, 35, B-5	2	74
T-68 Hendricks-B, 46, 26	2	139
T-88 Hendricks-A, 44, 26	6	460

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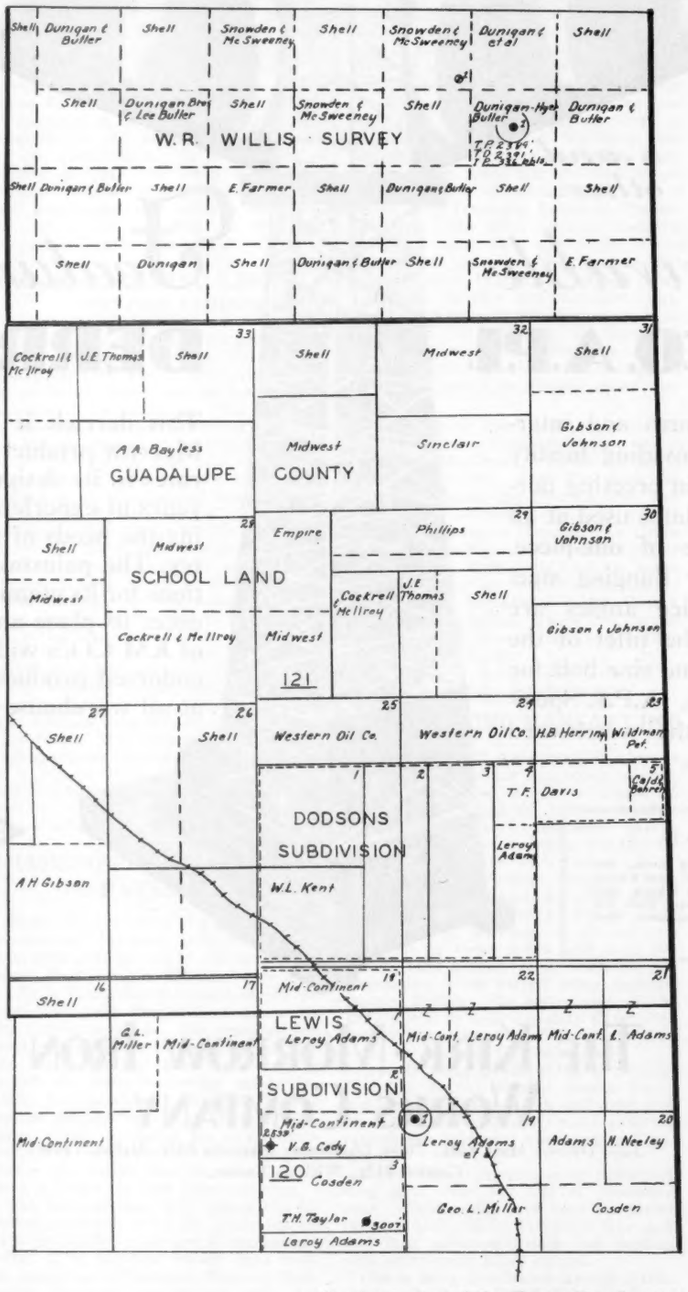
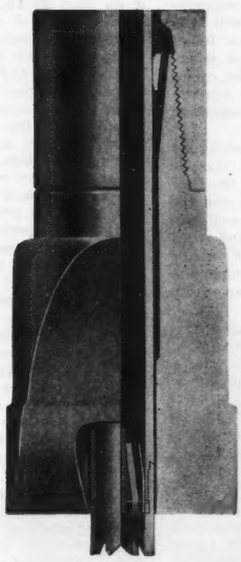


Map by courtesy of the Zingery Map Company.

Plat showing the first two high gravity, sweet oil producing wells in Taylor County, opening up a distinctive new area to production in West Texas. The four miles of untested acreage between the two wells may become another field like Noodle Creek, to the Northwest in Jones County, the nearest production to this new area.

67 cores in 5 days with 100% recovery



Showing Reed's Barrett-Robishaw Combination Drilling-Coring Bit Head with core barrel in drilling position.

* * *

Gulf Coast and Mid-Continent Distributors

Martin-Decker & Calmec Products

This is the last five days record of one major operator who put Reed's Barrett-Robishaw Combination Drilling-Coring Bit in the hole at 2968′ took 212 cores to 3902′ with an average coring time of 35 minutes per core.

* * *

Another major operator says that in drilling 10 wells—106 days of drilling time was saved—388 cores were taken—with an 87% core recovery and an average coring time of 65 minutes per core.

* * *

These are but samples from the every day performance of Reed's Barrett-Robishaw Combination Drilling-Coring Bit.

* * *

Any of our field men will be glad to give you the full story on this tool and its operation or upon request it will be gladly furnished from any of our offices. Ask us today.

Reed Roller Bit Company

HOUSTON, TEXAS

150 Broadway, New York City, N. Y.

1317 Esperanza St., Los Angeles, Calif.

T-8S Hendricks-B, 4, B-12	6	119
T-8S Hendricks-C, 28, B-5	8	975
T-8S Hendricks-D, 4, B-12	6	1,533
T-8S Hendricks-H, 28, B-5	6	552
T-8S Hendricks-I, 20, B-5	7	346
T-8S Hendricks-J, 30, B-5	5	387
T-8S Hendricks-K, 41, 26	7	858
T-8S Hendricks-L, 4, B-12	4	328
T-8S Hendricks-M, 35, 26	33	10,103
T-8S Hendricks-N, 28, 26	7	2,063
T-8S Hendricks-O, 22, 26	4	622
T-8S Hendricks-P, 28, 26	2	282
T-8S Hendricks-Q, 27, 26	2	818
T-8S Hendricks-R, 27, 26	3	874
T-8S Hendricks-S, 34, 26	4	1,578
T-8S Hendricks-T, 34, 26	7	905
T-8S Hendricks-U, 41, 26	10	944
T-8S Hendricks-V, 29, 26	1	62
T-8S Hendricks-W, 5, B-12	1	213
T-8S Hendricks-CX, 21, 26	4	903
T-8S Hendricks-A, 45, B-5	3	233
T-8S Hendricks-B, 35, B-5	2	391
T-8S Hendricks-C, 35, B-5	3	542
T-8S Hendricks-D, 35, B-5	1	155
T-8S Hendricks-E, 40, B-5	2	93
T-8S Hendricks-F, 40, B-5	2	229
T-8S Hendricks-H, 46, 26	2	162
T-8S Hendricks-I, 10, B-12	2	41
T-8S Hendricks-J, 9, B-12	8	530
T-8S Hendricks-L, 15, B-12	2	511
T-9O Hutchings, 47, 26	2	338
Texon Oil & Land Co.:		
Hendricks-A, 41, B-5	6	110
Hendricks-B, 45, 26	6	1,776
Total Hendricks Pool	574	87,361
Leck Area		
Atlantic-Kesslar & Logan:		
Leck, 3, 74	2	114
American Pet. Corp.:		
Leck, 3, 74	2	227
Empire Gas & Fuel Co.:		
Daugherty, 3, 74	3	71
Magnolia Pet. Co.:		
Scarborough, 1, C-22	2	166
Gulf Prod. Co.:		
Scarborough, 1, C-22	1	60
Daugherty, 3, 74	1	465
Shell-Llano Oil Co.:		
Daugherty, 1, C-22	5	260
Shell-Danciger:		
Daugherty, 3, 74	2	61
Skelly Oil Co.:		
Daugherty, 22, 16	4	1,013
Tidal Oil Co.:		
Scarborough, 1, C-22	1	61
Prairie Oil & Gas Co.:		
Leck, 16, 74	1	516
Daugherty, 3, 74	1	118
Scarborough, 1, C-22	1	51
Warner-Quinlan:		
Leck, 3, 74	1	402
Total Leck Pool	27	3,585
O'Brien Pool		
Continental Oil Co.:		
Morton-A, 10, B-12	1	53
Morton-B, 10, B-12	2	109
Wentz Oil Corp.:		
Morton, 10, B-12	1	75
Simms Oil Co.:		
Sealy, 50, F	1	16
Richardson et al:		
Stockton, 50, F	1	50
Total O'Brien Pool	6	303
Grand total Winkler County	607	91,249

PECOS COUNTY
Week Ending January 7,

Company, lease--	Wells	Prod.
M. H. Black:		
Fee	1	10
California Co.:		
Yates—Lease 1	19	10,200
Smith—Lease 1, Sec. 37	5	482
Smith—Lease 1, Sec. 23	8	3,123
Smith—Lease 1, Sec. 21	5	1,181
Smith—Lease 2	3	103
Smith—Lease 3	13	3,384
Smith	2	16
Tippett—Lease 1	1	70
University	1	44
Continental Oil Co.:		
Yates-A	8	728
Salvage	..	3,867
University-A	3	316
Cosby Drilling Co.:		
Smith	2	652
Dorn & McGee:		
Pecos Valley	1	25
Grayburg Oil Co.:		
Pecos River Bed	6	421
Salvage	..	238
Gulf Prod. Co.:		
All leases	42	17,502
Henshaw Oil Corp.:		
University	1	45
Humble Oil & Ref. Co.:		
Smith-A	12	1,697
Smith-B	7	1,043
Kirby Pet. Co.:		
Tippett	2	59
Kirby Pet. and Edson:		
Tippett	1	237
McCarty Oil Co.:		
Gray	1	....
Bennett	1	....
McMan Oil & Gas Co.:		
Smith-A	1	1,668
Smith-B	4	1,346
Smith-C	9	953
Tippett	3	323
Richardson	2	126
McMan & Continental:		
Yates	17	6,085
Mid-Kansas & Transcontinental:		
Yates-A	28	21,025
Yates-B	27	6,659
Salvage	..	222
Yates-C	11	8,302
Salvage	..	203
Yates-D	7	8,280
Yates-E	6	2,239
Yates-F	4	879
Yates-G	3	1,277
Yates-H	10	8,618
Smith	6	2,382
Smith-Taylor	19	4,279
Landreth Prod. Co.:		
University-A	3	582
University-C	3	1,004
University-C	3	32
University-E	1	109
University-F	2	111
University-G	3	53
University-H	1	23
Landreth and World:		
University-B	6	2,424
J. B. O'Mara:		
Butz	1	25
Pecos Valley Oil:		
Fee, Sec. 22, Block 26	3	48
Phillips Pet. Corp.:		
Monroe	2	170
Ramsey	4	1,072
Smith	3	642
Plymouth Pet. Corp.:		
Perry	1	37
Red Bank Oil Co.:		
Smith	5	451
Savoy & Mazda:		
Smith	3	640
Shell Pet. Corp.:		
Tippett	11	2,026
Smith-A	11	1,275
Smith-B	1	669
Smith-D	4	795
Smith-E	1	17
University-Bower-C	4	692
Simms Oil Co.:		
Smith	7	7,462
Skelly Oil Co.:		
Tippett	2	210
Taylor-Link:		
University	11	601
World Oil Co.:		
University	1	30
Total Pecos Field	399	141,509

OLD METHODS MEET MODERN REQUIREMENTS

(Continued from Page 38)

and escaping through constantly reducing orifices, and it is a well established fact that gas passing through a small orifice and rapidly reducing its pressure will have a very marked chilling effect upon the various substances that surround it.

This is in effect a form of coagulation, and is further illustrated by the action of this warm fluid that was pumped out of the well during the steaming operation, for it was found that if a stick or rod was held in the discharge stream at the well the solid portion of that stream would solidify on this rod and this test was used to determine when the oil was free of any appreciable amount of wax or heavy substances.

Yates Pool Example

This line of reasoning seems to be further borne out by the action of wells selected at random in the Yates Field in Pecos County, Texas, that were gauged at intervals over a period of one year. Four of these wells showed a slight decline in production over that period while the other four showed a considerable increase, so that the total production of those eight wells today is greater than it was one year ago.

This pool with a potential production of about 5,250,000 bbls. of oil daily at this time is only running to the pipe lines about 130,000 bbls. and this has been the ratio of production ever since the first wells were brought in, so that natural energy stored with the oil along with the heat that accompanies it has been greatly conserved.

While this is not advanced as a new theory in petroleum engineering it is interesting at this time to note that the practical production man of 20 years ago, as well as the engineer engaged in the business in those days, recognized these fundamental conditions as existing and having their influence on the amount of production he could obtain from any well, and acted accordingly.

Checking back over the years it is rather surprising to note that many methods now being advocated were tried years ago in one form or another and are now again having their day in the spotlight of the industry.

This recycling of ideas is not limited to the oil industry alone, for it is seen in most human activities and at each recurrence something more is added and in this way real progress in the arts and sciences is actually made.

Automatic Pumping

Automatic pumping, something that is being given prominence at this time, was tried many years ago and a system was devised that gave promise of good success until actual field application over a period of time demonstrated that it had its weak points, and other methods of pumping succeeded it.

This old type of automatic pumping device was effected by introducing into the well a string of 2-inch tubing, run to near the bottom of the hole, and fitted with a regular type standing valve in the lower end.

This arrangement would set up a difference in fluid level between the outside and inside of this 2-inch string and the standing valve would be opened by the pressure exerted on it by the hydrostatic head on the outside of the tubing and the oil with its formation gas would flow into the tubing until the inside and outside pressures were equalized. The standing valve would then close.

The next problem was to find some means of ejecting this column of oil that was built up inside of the tubing and it was the practice to fit a control head on the casing through which the 2-inch tubing string projected and in this way a tight seal for the well was made.

Next a string of one-half inch macaroni tubing was run inside of the 2-inch flow string and at its surface end the one-half-inch string was fitted with a valve and an orifice plate through which the gas entered this ejection string of small tubing, and the gas pressure back of this orifice was built up to that required to lift the oil within the hole to the surface and expel it from the flow string.

The gas pressure was maintained constant at all times and flowing through this orifice it would gradually build up a gas pressure in the oil in the tubing, as well as aerate it, until that fluid column was lightened to the point where the accumulated gas pressure introduced by the ejection tube would lift the oil to the surface.

Limited Production

This was an automatic and intermittent method of producing a well and worked very nicely until it was found that corrosion of the tubing and macaroni string was excessive and the cycles between ejections of oil were so impregnated that the actual daily production was limited.

This falling off in production was only natural when it is remembered that as the formation pressure decreases the flow of oil into the well will decrease and the height to which the fluid in the well will raise will be constantly less and with this lowering of hydrostatic head outside of the 2-inch flow string the proportion of oil to enter at each cycle of operation would decrease.

At the same time because of this lowering of natural energy it was found that the rate of flow into the 2-inch tubing was decreased, that is, it took longer to fill the flow pipe to the required level to permit the gas pressure to lift the oil to the surface, consequently the intervals between flows was lengthened until finally the wells were found to be delivering less fluid by this method than they would produce pumping on the beam so the automatic pumping was abandoned gradually and the wells put on the pump.

Actual field trial was necessary to develop these inherent weaknesses in this system for as a matter of fact the whole plan then, as now, is dependent upon the natural forces stored within the formations for the expulsion of the oil and with our more recent study of these conditions it is found that the gas-oil ratio is the real determining factor, for by using nature's stored energy properly it is possible to produce the greatest amount of oil with the formation gas and still leave the oil that remains in the sands in the best possible condition for recovery.

Enormous Natural Energy

It is most interesting to contemplate the enormous amount of energy that is stored in underground reservoirs of oil and gas for it is found that it would require approximately 19,950 indicated horsepower to compress 70,000,000 cubic feet of gas from atmospheric pressure to 2,300 pounds per square inch, and yet this represents the amount of gas that has flowed from only one well in the Oklahoma City area. Equipment to compress this amount of gas at the surface would cost approximately $2,500,000 and the heat generated in compressing this gas would be equivalent to 19,950,000 B.t.u. per hour.

It therfore seems that there is no logical reason for dissipating this enormous amount of natural energy that has been provided without permitting it to do work, and it therefore follows that conservation in the form of gas-oil ratio is most desirable, both from the standpoint of lifting the greatest amount of oil with the formation gas and at the same time preventing the chilling of the underground sands and precipitating the heavier hydrocarbons and waxes out of the fluid to plug the pore spaces in the sands and in this way prevent the escape of the oil and gas to the hole and to the surface.

It is suggested that at this time a review of past practices in production can well be made to find out what has been done and an analysis of those methods will point out their weaknesses and by applying the greater resources in mechanical engineering and equipment now available to the present day problems methods will be found of securing more oil at a lifting cost less than is possible when wells are produced with the idea of getting all that is possible in the shortest time.

Standard of Kansas Considering Proposals Of Other Companies

President A. S. Hopkins, of the Standard Oil Company of Kansas, in a statement to the stockholders says:

"The pipe line from our refinery to the Kansas oil fields has been completed and crude oil was started through it on July 8, 1929. Between that date and the close of the year, it had transported to our refinery, 1,205,742 bbls. of crude oil, which is an average of 6,812 bbls. per day, and we thereby effected a substantial saving. We have already contracted for a supply of crude to be run through this line for a period of five years, and are, at the present time, receiving 7,000 bbls. per day and have negotiations under way for more. The pipe line has a capacity of 15,000 bbls. daily. This pipe line affords us a splendid opportunity to procure a supply of crude on a reasonable basis.

"Our refinery is being maintained in excellent physical condition and is operating with a most satisfactory degree of efficiency, which will, we believe, compare favorably with the best. The conversion of our Burton tube-type pressure stills to the continuous method of operating has proven a great improvement in efficiency and economy. While our crude run capacity has heretofore been listed as only 15,000 bbls. per day, we have sufficient equipment to run it well up above 20,000 bbls. daily, should the market conditions justify the increased run. Our continuous Burton and Holmes-Manley cracking equipment is adequate to process the gas oil from this additional amount of crude.

"During the year 1929, our total gross sales of all refined products were the largest in the company's history, exceeding those of 1928 by approximately 22.5 per cent, and we now have contracted for sale, during 1929, a volume in excess of our 1929 business.

"Early in 1929 we purchased a controlling interest in the Tulsa Oil Co., a producing company which owns over 15,000 acres of well-located oil and gas leases on lands in Oklahoma, Kansas and Texas. A small amount of production was developed late in 1929, but in view of the general movement within the industry to curtail crude production, a conservative policy has been adopted respecting the development of that acreage.

"Our cash position is good and it should enable us to negotiate additional advantageous crude contracts. It also, no doubt, suggests, in these days of mergers and consolidations, the possibility of effecting a closer working arrangement with some other oil company or companies. Several such proposals have been tentatively made and considered. Indeed, two of them are now being investigated, and if either or both of them seem favorable enough to warrant it, your management will later on make appropriate recommendations to the stockholders."

TIPPETT DRILLING COMPANY
OIL AND GAS WELL CONTRACTORS

SHREVEPORT, LA.
May 23rd, 1929

The Brewster Company Inc.,
Shreveport, Louisiana

Gentlemen: In reply to your request for information regarding the 4 inch Tool Joints purchased from you some time ago.

We wish to say we have drilled 4800 feet with this string of joints in some of the hardest drilling in the state of Arkansas, and found them perfectly satisfactory in every particular. We believe there are no better tool joints made than your API Tool Joints.

Yours very truly,
TIPPETT DRILLING COMPANY,
By J.C. Tippett

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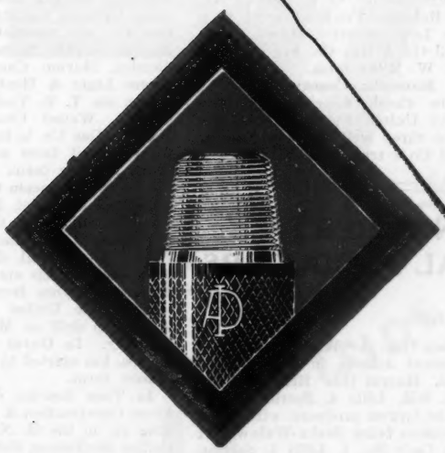

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The Brewster COMPANY~INC.
SUCCESSORS TO OIL CITY IRON WORKS INC.
Shreveport, Louisiana

O&GJ Jan. 16

Southeast Ohio Showing Best Wells

Furnishing More Production Than West Virginia and Southwest Pennsylvania Combined. Two Guernsey County Producers

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Jan. 13.—Operators will have to do a lot of drilling in the old fields this year to keep their production from showing a decline. It will be the exception when the old fields present better than light pumpers. At intervals the deep sand territory in southeast Ohio will no doubt complete a good producer, the same as it did last year. For a great many years southeast Ohio has been furnishing more new production than West Virginia and southwest Pennsylvania combined.

SOUTHEAST OHIO

In the SW Section 11, Wheeling Township, Guernsey County, the East Ohio Producing & Refining Co.'s No. 4 on the E. C. Quinlen farm produced 55 bbls. from the Niagara lime. In the SW Section 10, same township, the Preston Oil Co. completed No. 3 on the J. D. Alloway farm which produced 55 bbls. the first 24 hours after drilled into the Niagara lime.

At Bollin Mills, Section 4, Knox Township, Vinton County, H. C. Farmer and others completed in the Berea grit a second test on the John and Louisa Stanley farm. It is a 3-bbl. pumper. In Section 14, 2 miles south of Chesterhill, Morgan County, W. S. Harris completed in the first Cow Run sand No. 12 on his own farm. It is a duster. The same distance south of Chesterhill, Section 13, Marion Township, Morgan County, W. S. Harris completed No. 13 on the A. B. Lambert farm. It is a 5-bbl. pumper.

In Lot 58, Athens Township, Athens County, the Athens State Oil & Gas Co. completed in the Berea grit No. 17 on the Ohio state lands. It is a very light pumper. Two miles west of Canaanville, Section 18, Canaan Township, Robert Bean completed in the first Cow Run sand No. 4 on the Lena Bean farm. It is a near duster.

Monroe County

In Section 26, Wayne Township, Monroe County, the Sylvania Producing Co. has a 4-bbl. pumper at No. 8 on the E. F. Givens farm. In Section 4, Salem Township, the Wittmer Oil & Gas Properties Co. have a Berea grit duster on the Jacob Tomi farm. In Reading Township, Perry County, the Preston Oil Co. has a fair gas well at a second test on the William Hummel farm. In Section 17, Ward Township, Hocking County, the Preston Oil Co. has a gasser on the Sunday Creek Coal Co.'s property. In Marion Township, Berlin, Brian & Co. have a duster on the L. Ruff farm.

In the SW Section 9, Brush Creek Township, Muskingum County, the Pure Oil Co. completed a test on the A. B. Dozer farm. It is a gasser in the Clinton sand, estimated to be good for 2,500,000 feet. In the SE Section 20, York Township, Morgan County, the Pure Oil Co. completed a test on the Jacob Fisher farm. It is a gasser in the Berea grit and spraying oil at the rate of 3 bbls. a day.

At Bollin Mills, Section 4, Knox Township, Vinton County, the Powers Oil & Gas Co. completed in the Berea grit No. 4 on the Cameron S. Clark farm. It is a 9-bbl. pumper. In the SE Section 13, Monroe Township, Harrison County, William E. Heavlin completed a very light pumper in the Berea grit on his own farm.

Meigs County

In the northern part of Lot 282, Sutton Township, Meigs County, B. M. Tyree & Co. completed in the Berea grit No. 5 on the William R. Lott farm. It is a 4-bbl. pumper. In the NW Section 11, same township, Smith & Co. have a duster in the Cow Run sand at a second test on the A. C. Carnahan farm. In the NW Section 4, same township, John M. Hazlett & Co. completed No. 5 on the Belle Spencer farm. It is a very light pumper in the Cow Run sand. In the NE of Lot 1,217, Sutton County, the Preston Oil Co.'s No. 4 on the Emma Williams farm is a 5-bbl. pumper in the Berea grit. In the same township, the Twenty-Five Association, Inc. has started to drill a second test on the Stanley Holter farm.

WEST VIRGINIA

On the Robison Run, McClellan district, Doddridge County, A. C. Garner & Co. completed a 5-bbl. pumper in the Gordon sand on the S. H. Garner farm. In Grant district, Cabell County, the Harshbarger Oil & Gas Co.'s test on the John Beckett farm is a gasser in the Big Injun sand.

In Paw Paw district, Marion County, the Owens Bottle & Machine Co. has a rig up on the Charles Toothman farm. In Clay district, Monongalia County, the Pedlar Run Oil Co. has a rig up on the L. R. Hess farm. In Battelle district, Eddy, Johnson & Co. have a rig up on the Elias Fox farm. In Grant district, Ritchie County, David French & Co. have a rig up on the B. F. Gilmore farm.

In Mannington district, Marion County, Sutton Brothers completed a gasser on the J. P. Thomas heirs farm. In the same district, the Carnegie Natural Gas Co. has a gasser on the Wells-Glover farm. In Sheridan district, Calhoun County, the Richter Oil Co.'s test on the Elmer P. Haught farm is showing for a 5-bbl. pumper in the Salt sand.

In Grant district, Cabell County, the Penn Natural Gas Co.'s test on the Thomas Eaton farm is a gasser. In McComas district, the Hamilton Gas Co. has a gasser at No. 9 on the John T. Markin farm. In Jefferson district, Lincoln County, the United Fuel Gas Co. has a gasser at No. 3,908 on the S. A. Egnor farm.

Boone County

In Scott district, Boone County, the Cameron Oil & Gas Co. has a gasser at No. 10 on the George P. Alderson farm. In the same district, the Mountain State Fuel Co. completed a gasser on the Hill-Prichard farm.

The following gas wells have been completed in Kanawha County: In Malden district, the Owens Bottle & Machine Co.'s No. 10 on the L. A. Myers farm; Ten Mile Oil & Gas Co.'s No. 9 on the H. C. Dickison farm; in Cabin Creek district, the Cannelton Coal Co.'s No. 2 on its own property; Elk district, D. T. McClure's No. 1 on the Wise-McCabe farm; in Big Sandy district, the United Fuel Gas Co.'s No. 4,014 in the Big Injun sand.

In Scott district, Boone County, the Owens Bottle & Machine Co. completed No. 1 on the L. F. Echols farm as a gasser in the Berea grit. In Washington district, Pond Fork Oil & Gas Co.'s No. 9 was a gasser. In Sherman district, the Pure Oil Co. has a gasser at No. 32 on the L. R. and P. tract, good for 300,000 feet. In Sherman district, the same company has a gasser at No. 42 on the Federal Coal Co.'s property, good for 1,600,000 feet.

Putnam County

In Scott district, Putnam County, the Sowders Oil & Gas Co.'s second test on the Pines-Moore farm is a gasser. In the same district, the same company has a gasser on the J. A. Cottle farm. In the same district, Ira Harshbarger's test on the Walter E. Hodges farm is a gasser. In the same district, McElroy & McElroy have a gasser on the Rachel West farm. In Curry district, the Page Development Co.'s No. 3 on the J. N. Briscoe farm is a duster.

In Lincoln district, Wayne County, the United Gas Co. has a gasser at No. 12 on its own property. In Kanawha district, Fayette County, G. L. Cabot's No. 4 on the Robinson-Prichard tract is a gasser. In Lewis district, Mason County, the Bell Oil & Gas Co. has a gasser on the W. W. Riley farm.

Kanawha County

In Cabin Creek district, Kanawha County, the United Fuel Gas Co. has rigs up for three wells on the Sunday Creek Coal Co.'s tract. In Louden district, the same company has started to drill on the Black Band Coal Co.'s farm. In Logan district, Logan County, the Tompkins Gas Co. has started to drill on the James H. Barker farm. In Glendale district, Mason County, the Federal Coal Co. has part of the rig material at a location on the John Hanley farm. In the same district, the same company is building a rig on the W. W. Hutton farm.

Ritchie County

In Murphy district, Ritchie County, the Hope Natural Gas Co. is building a rig on the John K. Bradley farm. In Walker district, Wood County, Allman & Horner have started to drill on the Thomas Heckard farm. In Carroll district, Lincoln County, A. F. Morris, trustee, has made a location on the V. Holdren farm. In Curry district, Putnam County, the Penn Natural Gas Co. has made a location on the W. Henry Kinder farm. In McComas district, Cabell County, the same company has made a location on the Robert L. Johnson farm. In Clay district, Monongalia County, the Chartiers Oil Co. is due in the Big Injun sand on the Marion Tennant farm.

In Sherman district, Calhoun County, the United Fuel Gas Co. has started to drill on the Ernest Proudfoot farm. The same company has rig material at a location on the Carr Shafer farm. In Lee district, the Southeastern Gas Co. has a rig up on the John Slider farm. In Center district, the Hope Natural Gas Co. has rigs up on the Dora Stump and C. F. Heasey farms. In Center district, Gilmer County, McCall & Co. are rigging up on the E. B. Baker farm.

From the West Virginia fields was reported same new work under way and starting. On Big Root Creek, Center district, Calhoun County, the Southeastern Gas Co. has completed the rig on the Martin Snyder farm. In Mannington district, Marion County, the Manufacturers Light & Heat Co. is building a rig on the T. B. Yost farm. In Church district, Wetzel County, the Carnegie Natural Gas Co. is building a rig on the Alice Edgell farm and drilling on the J. D. Bartrug farm.

Lincoln County

In Duval district, Lincoln County, the Cameron Oil & Gas Co. is rigging up on the Horse Creek Land & Mining Co.'s tract. In Carroll district, the United Fuel Gas Co. has started to drill on the Margaret Jaynes farm. In Washington district, the United Fuel Gas Co. has started to drill on Mohler Lumber Co.'s property. In Duval district, the Guyan Oil Co. has started to drill on the Gordon Mason farm.

In Troy district, Gilmer County, the Hope Construction & Refining Co. is rigging up on the G. N. Simons farm. In Collins Settlement district, Lewis County, J. W. Wilson has started to drill on the Exchange National Bank's property. In Mannington district, Marion County, D. C. Moore has started to drill on the Nora Hibbs farm. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. is building a rig on the Brice Howard heirs farm. In Church district, Wetzel County, Walter Null & Co. are drilling on the Ashcraft heirs farm. In Burning Springs district, Wirt County, R. C. Wagner & Co. have rig material at a location on the Luther Kemp farm.

SOUTHWEST PENNSYLVANIA

In South Moon Township, Allegheny County, E. E. Laughner has drilled his test on the Robert C. Hawthorne farm through the 100-foot sand and it is showing for a 5-bbl. pumper.

In Richhill Township, Greene County, the Carnegie Natural Gas Co. completed a gasser on the W. L. Scott farm.

RIBSTONE FIELD, EASTERN ALBERTA, HAS TWO POTENTIAL PRODUCERS

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Jan. 11.—The Ribstone Field in eastern Alberta has come to the fore with two potential producers. Oxville Oil & Gas Co.'s No. 1, LSD 15, Section 10-46-2w4, blew in at 1,776 feet, with a fairly strong gas flow followed by some crude oil. Casing was run and a production test is being made. The show was apparently encountered in the top of the same sand that proved commercially productive in Meridian Oils' No. 1. discovery well at 1,830 feet, and the Oxville test will probably be drilled deeper into the sand. As with Meridian's No. 1, the gas in Oxville's No. 1 did not hold up after the first blow. The crude is reported clear of water, and of fairly high grade. Location is south of Lloydminster and close to Oxville, Oxville men financing the test.

Meridian Oils' No. 2, LSD 1, Section 16-451w4, has been cemented on top of the same sand at 1,776 feet and as soon as the cement sets will be drilled into production.

Production from the Wainwright Field in east central Alberta in 1929 totaled 21,400 bbls. Hargal Oils' British Petroleum's No. 3-B, LSD 4, Section 29-45-6w4, was the largest producer, with 8,000 bbls.; the others being Saska-Wainwright Oil & Gas Co.'s No. 1, LSD 1, Section 19-45-6w4, with 5,400 bbls.; Edmonton-Wainwright Oils' No. 1, LSD 4, Section 29-45-6w4, with 4,000 bbls.; and Wainwell Oils' No. 1, LSD 9, Section 36-44-7w4, with 4,000 bbls. Several other wells are in the producing sands but were not put on the pump and there was some production consumed in the field and not included. The figures do not include production from Meridian Oils' No. 1 in the Ribstone Field.

In the Wainwright Oil Field Selections' No. 1, LSD 13, Section 2-46-7w4, is rigged up but will not start drilling till spring. Wainwell Oils' No. 1, LSD 9, Section 36-44-7w4, has developed water trouble; and tubing will likely be pulled and used on Wardwell's No. 4 while No. 1 is got in shape for further production. Admiral Oils' No. 1, LSD 16, Section 36-44-7w4, has cable tools in place for drilling into the lime from 2,695 feet, at

(Continued on Page 149)

TUBULAR LEGS
OF COURSE
RELATIVE CARRYING CAPACITY OF STEEL SHAPES AS COLUMNS
WELDED
SEAMLESS A.P.I. GRADE "C"
34% 47% 56% 75% 100%
BASED ON 10 FT. LENGTH WEIGHING 10.5 LB. PER FOOT
ARMORED INSIDE AND OUTSIDE

SUPER LEG STRENGTH

A derrick is only as strong as its legs. Moore super leg strength is achieved by the use of seamless pipe leg sections of 40-50 carbon steel. These sections have a minimum yield point of 45,000 pounds per square inch. Their relative strength, when used as columns, is indicated by the chart.

Armored inside and outside by galvanizing, Moore Legs retain their super strength. Champion Derrick leg sections are galvanized by the hot dip process, after all fabrication is completed. No raw edges, either outside or inside, are left exposed to the ravages of rust.

THE Moore Champion DERRICK

Moore ALL STEEL RIG EQUIPMENT

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Something to crow about

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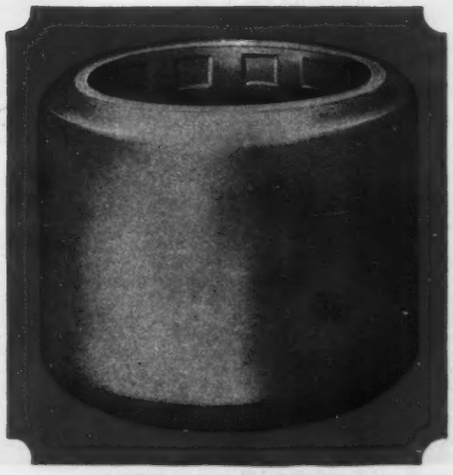

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Five Completions in Old Lima Field

Good Showing for Season of Year. Central Ohio Development Drops During Week Owing to Weather. Dozen Wells Starting

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Jan. 13.—The old Lima Field of northwestern Ohio shows five completions, which is rather large for the winter season. Harmon, Watts & Talbot's No. 1 on the Mark Bennett 57 acres, Section 7, Delaware Township, Hancock County, gauged 400,000 feet of gas, at a total depth of 1,325 feet, or 29 feet in the Trenton lime. Ryan and others' No. 1 William Bristoll farm, Section 7, same township, showed for a light gas well.

In the older development of Hancock County, L. Cramer's No. 5 well, 600 feet from the south line and 200 from the east line of the John Shank farm, SW Section 32, Liberty Township, pumped 25 bbls. initial. Trenton was topped at 1,320 feet and drilled 65 feet in to a total depth of 1,385 feet. In Eagle Township, same county, Star & Clark's No. 17 well, 600 feet from the south and west lines of the Alice Stauffer, NW Section 6, pumped 25 bbls. initial, at a total depth of 1,380 feet, or 64 feet in the Trenton.

In Hopewell Township, Seneca County, the Penn Ohio Oil & Gas Co.'s test, 250 feet from the north line and 550 feet from the east line of the Peter Ryman, SW, Section 1, was dry at a total depth of 1,699 feet, or 195 feet in the Trenton. This is known as the old D. Loose farm, on the oil map.

CENTRAL OHIO

Development work in the Central Ohio fields took a heavy drop during the week, there being but 18 completions reported, of which 7 were oil wells, with an initial production of 141 bbls., 4 dry holes and 7 gas wells. In new work for the period there were 9 locations made and 12 new wells started drilling.

In Ashland County, Greene Township, the Ohio Fuel Gas Co. drilled a light gas well in No. 1-4,527 on the W. C. Workman, Section 20. Same company's No. 1-4,947 on the Lola B. Smith, Section 1, Montgomery Township, is a fairly good gas well, and a location was made by the same company for a second test on the Alva Shriner farm, Section 1, same township, Hulse & Kundtz are drilling No. 1 on the Martin H. Morr farm, Section 13. Ohio Fuel Gas Co. is drilling No. 1-4,918 on the Jim R. Miller farm, Section 23, Orange Township, same county.

In Medina County, Lafayette Township, the Ohio Fuel Gas Co. staked a location on the Anna Schlepchak farm, Section 23.

In Lorain County, Carlisle Township, the Wiser Oil Co. has a very fair gas well in No. 5 on the J. C. Palmer farm Lot 7, at from 2,343-56 feet.

In Wayne County, Wooster Field, the Ohio Fuel Gas Co.'s No. 1-4,921 on the William C. Martin farm, Section 31, Congress Township, is an average gas producer, slightly below 500,000 feet.

In Knox County, Jackson Township, the Pure Oil Co.'s No. 2 Parker Mavis farm, Section 1, produced an initial of 36 bbls. from 3,079 to 3,140 feet.

In Coshocton County, Newcastle Township, Hulse & Kundtz' No. 2 on the French G. Allen farm, Section 20, pumped 20 bbls. initial with a gas volume of 275,000 feet.

In Summitt County, Greene Township, F. A. Brendall and others brought in an exceptionally good gas well in No. 2 on the Carl Swartz farm, Section 18. In this well the Stray sand from 4,027-38 feet was dry, the gas being found in the Clinton lime from 4,038 to 4,102 feet. East Ohio Gas Co. is drilling a second test on the Adam Kepler farm, Section 24, Franklin Township, same county.

Licking County

In Licking County, Fallsburg Township, the Emerald Petroleum Co.'s second test on the Jacob Weiss farm, Section 8, produced 50 bbls. initial, from 2,810-61 feet. Same company made a location for No. 6 on the James A. Little farm, same section. The Pure Oil Co. is drilling No. 5 R. L. Shoemaker farm, Section 1, Hanover Township, same county.

In Muskingum County, Salt Creek Township, the Athey Co.'s test on the Clement L. V. Hunter farm, Section 3, was dry in the Clinton from 4,115 to 4,250 feet. Same company got a dry hole on the George Sherman farm, Section 16, Union Township, in the Berea sand from 1,403-36 feet, total depth, 1,490 feet. In Clay Township, same county, Ney and others are starting a test on the William McDonald farm, Section 3. William Kline and others are starting No. 3 on the Ramsbottom Pottery Co. land, same section. Crawley and others are drilling No. 1 George McDonald, same section. Craig, Adair and others are drilling No. 2 on the Howard Tewkesbury farm, same township, and the Wehrle Oil & Gas Co. is drilling No. 1 on another property owned by Howard Tewksbury, same section and township. Mealick and Ford are drilling on the James Ford farm, Section 12, Newton Township, same county.

In Athens County, Ames Township, Orondorff and others have a light gas well in No. 4 on the Linna Dean, Section 3, in the lower Berea sand from 1,377-98 feet, total depth of hole, 1,405 feet. Ohio Fuel Gas Co. is drilling No. 2-4,968 Theodore Fleming, Jr., farm, Section 5, same township. Same company is drilling No. 3-4,972 on the Guy M. Kasler farm, Section 33, Berne Township. In Cannan Township, Edward Byron and others' Nos. 1 and 2 on the B. L. Pilcher, Fractional Section 2, showed about a barrel each from the upper Cow Run sand around 175 feet deep. Nos. 3 and 4 same farm, were dry in the same formation, and No. 5 is shut down. In Alexander Township, Townsend Oil & Gas Co. is drilling No. 2 on Sarah E. Penrod farm, Section 31.

In Meigs County, Sutton Township, Tyree and others' No. 5 William R. Lott, Section 24, is reported at 3 bbls. natural from the upper Berea sand from 1,698 to 1,716 feet, total depth, 1,717 feet. The Preston Oil Co.'s No. 4-1,393 Emma Williams farm, same section, is showing very light in the Berea from 1,702 to 1,722 feet.

In Jackson County, Lick Township, the Ohio Fuel Gas Co. has an average gas producer in No. 1-4,907 on the Peter Radcliff farm, Lot 20, in the Clinton lime at 2,512 feet. Same company made a location for a test on the Eliza Brown, Lot 91, same township.

In Morrow County, Westfield Township, the Lee Oil & Gas Co. is starting a wildcat on the Cris Weist farm, which will be watched with much interest.

In Fairfield County, Merle Myers and others made a location on the S. M. Williamson farm, Section 16, Rush Creek Township.

In Guernsey County, the North Salem Oil & Gas Co.'s No. 5 C. and A. Gray farm, Section 11, Wheeling Township, is reported at 30 bbls. initial from 3,460-63 feet, total depth, 3,465 feet. The Kemrow Co. made a location on the Amy Lubonavich farm, Section 13, Millwood Township, same county.

In Morgan County, but one completion was reported being the Ohio Fuel Gas Co.'s No. 1-4,916 on the Mary A. Koontz, Section 27, York Township, which was dry in the Berea sand at 1,620 feet, or 20 feet in the Berea formation. The Pure Oil Co. is drilling a second test on the Jesse G. Eppley, Section 28, same township. Ohio Fuel Gas Co. is drilling No. 1-4,932 on the W. H. Coler, Section 26 Malta Township, and made a location for No. 4-4,988 on the Hugh Ellis, Lot 4, Marion Township.

INDIANA

There were a scarcity of completions in any part of Indiana. The best of the late wells was that drilled by Lee & Cox, Trustee's in No. 1 on the Charles McAtee farm, SE, Location 146, Clay Township, Pike County, which produced an initial of 65 bbls. from 1,018-24 feet. This well is 200 feet from the north line and 660 from the east line of the farm, L. N. Savage and others' second test in the northwest corner of the Byron Preston farm, NW Section 30, Washington Township, same county, produced but 1 bbl. from 1,121-31 feet.

The Siosi Oil Corp.'s wildcat in the northeast corner of the W. J. Butt farm, NE SW, Section 34, Posey Township, Clay County, was a dry hole at 3,126 feet. This deep test is 1½ miles south of the town of Stanton, and gives that territory a pretty fair test.

The Pendleton Natural Gas Co. is reported to have drilled a fair gas well on the Taylor Brown lease, in Madison County.

A report is that a test is to be drilled by the Dome Oil Co. near the town of Highland, southwest of Gary, in Lake County, and not far away from Chicago.

Advice from the Kankakee Valley area of western Indiana that the Michigan-Ohio Oil Co., under the supervision of George C. Christman, expects to make a thorough search for oil in the valley in Jasper County, where the Trenton is found at around 900 feet, with two known producing sands above, the Niagara and Clinton limes. This is in the area where an English syndicate drilled a large number of shallow wells some 35 years ago, where natural lubricating oil was found.

ILLINOIS

Five completions were reported from the Illinois fields, which were well scattered over a large area. In Montgomery Township, Crawford County, L. C. McDowell and others' No. 14 well, 575 feet

(Continued on Page 102)

WILDCAT NORTH OF WHITESVILLE, KY., ESTIMATED 40 BBLS. AT 234 FEET

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., Jan. 13.—Operating concerns in the Owensboro Field are now talking seriously of extending the shut down for an additional 30 days, which would make it a 60-day shut down from December 15 to February 15, but it has not been settled yet as to the second 30-day lay-off. Possibly it might as well have an extension of an additional 30 days if weather conditions become bad, as nothing can be done, with bad mud roads or deep snow.

The week's interesting find of oil in the Owensboro Field was made about 16 miles northeast of Whitesville and in the southern portion of Hancock County, where it is hard getting to, even on horseback. Ellis & Thomas drilled a real wildcat on the Link Richards' 660 acres, and have what is termed the shallowest producer in the Owensboro or Tri-County Field, the oil being found at a depth of only 234 feet, and estimated good for 40 bbls. There were 13 feet of rich sand, the top of which was found at 221 feet. The test was drilled close to the Richards home, notwithstanding there were 660 acres to pick from, but "Lucky Jim" Thomas wanted to drill where he put the stake. In case this well maintains its production it will bring about an intensive drilling campaign in that part of the field, which has never been suspected of having oil under it. The shallowest well known to be found in western Kentucky was between Bowling Green and Scottsville, which was found at 21 feet, but was short lived, although found in an oil sand. The only bad feature of development work in the area of the new shallow find is the taking of drilling material into the rough uphill and downhill country, similar to that experienced in parts of Lee and other counties in the eastern part of the State. Whether the oil in the Richards well was found in the Jett sand or some other formation is yet unknown, but it indicates that lower sands may be found more productive, especially the Barlow sand, which has proven so productive in that part of Kentucky. Deeper tests will be drilled just as soon as material can be moved to the big farm. The finding of a second producer will be a great help to the new area and bring about a new producing area for the year 1930. Reports are that development will start in the new area as soon as the shutdown period is off on January 15, regardless of whether an additional 30-day shut-down is made or not.

A summary of the week's work in Kentucky shows 22 completions, 11 producers with an initial production of 400 bbls. 8 dry holes and 3 gas wells.

County—	Comp.	Oil wells	Prod.	Dry	Gas
Ohio	19	10	360	7	2
Hancock	1	1	40	0	0
Daviess	1	0	0	1	0
Knox	1	0	0	0	1
Total	22	11	400	8	3

Ohio County Wells

The best completion for the week in Ohio County was the Rex-Pyramid Oil Co.'s No. 3 on the S. C. Rhodes farm, in the Barnett's Creek Church Pool, southwest of Taffy and west of the Bartlett Pool, which showed an initial of 80 bbls. from the Stray sand. Same company's No. 18 on the Sallie Hoover farm, same pool, produced 50 bbls. initial from the same formation, and the same company's No. 4 on the L. T. Bartlett 57 acres, same pool, produced 30 bbls.

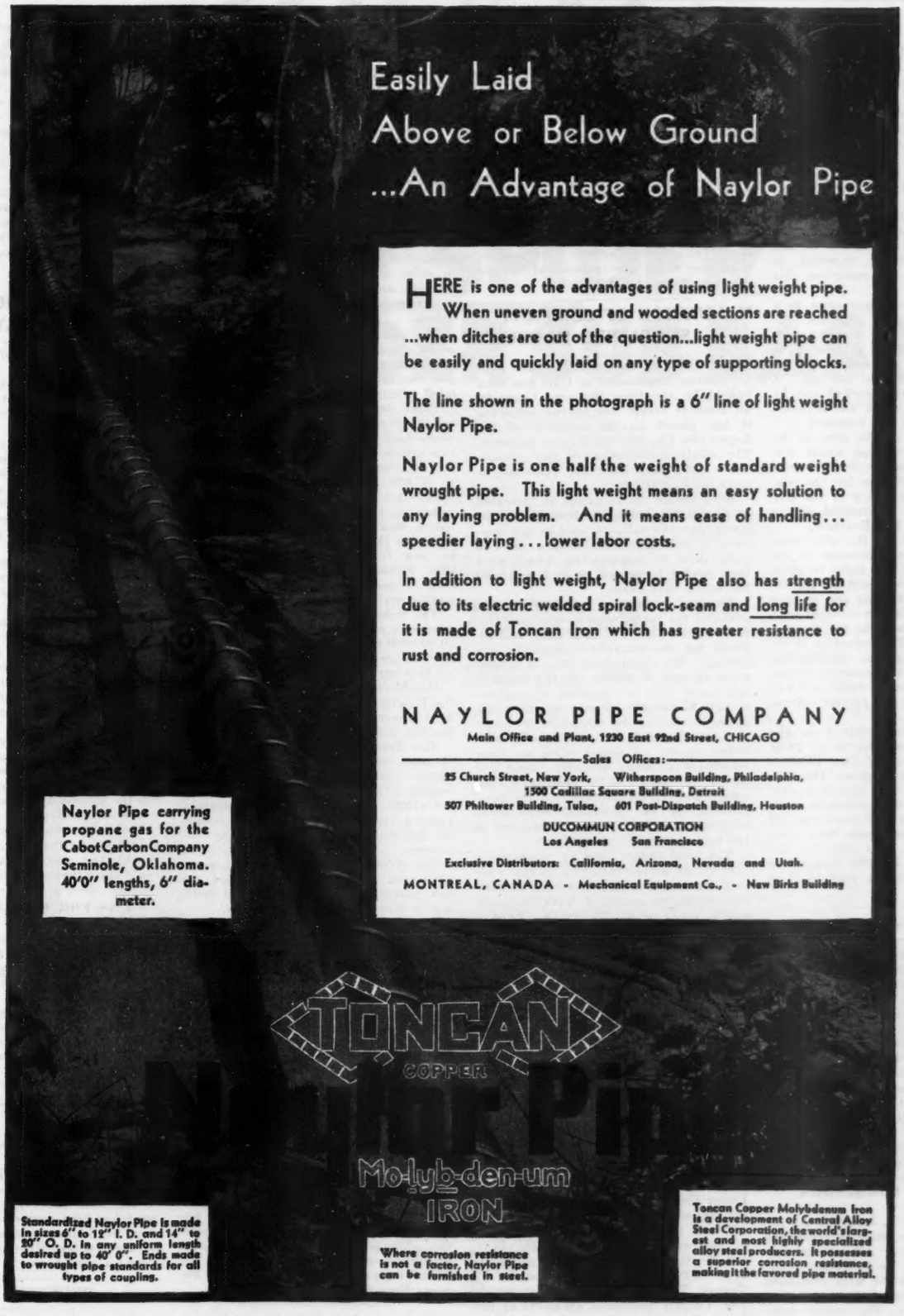
Hupp and Duff's No. 22 on the Clyde Bartlett farm, in the Church Pool, developed into a dry hole. Smith and others' No. 3 on the J. W. Dawson farm, same pool was dry, while No. 4 showed 10 bbls. a day.

Kentucky Pipe Line Co. drilled a dry hole in No. 4 on the P. R. Kelley 30 acres.

In the Friendship Church Pool, H. L. Ogle and others' No. 12 on the T. P. Royal 40 acres, reported good for 75 bbls. initial, with No. 13 under way. In the same pool, the National Deposit Bank's No. 5 on the T. P. Royal 25 acres, produced an initial of 25 bbls.

In the Whittaker Field, James C. El-

(Continued on Page 175)



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HERE is one of the advantages of using light weight pipe. When uneven ground and wooded sections are reached ...when ditches are out of the question...light weight pipe can be easily and quickly laid on any type of supporting blocks.

The line shown in the photograph is a 6" line of light weight Naylor Pipe.

Naylor Pipe is one half the weight of standard weight wrought pipe. This light weight means an easy solution to any laying problem. And it means ease of handling... speedier laying... lower labor costs.

In addition to light weight, Naylor Pipe also has strength due to its electric welded spiral lock-seam and long life for it is made of Toncan Iron which has greater resistance to rust and corrosion.

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Toncan Copper Molybdenum Iron is a development of Central Alloy Steel Corporation, the world's largest and most highly specialized alloy steel producers. It possesses a superior corrosion resistance, making it the favored pipe material.

Natural Gas Developments

REDUCTION IN RATES OFFERED BY DALLAS CO.

DALLAS, Tex., Jan. 11.—A voluntary reduction in the gas rate to householders has been offered to the City Commission by the Dallas Gas Co. The new schedule was submitted through Supervisor of Public Utilities John W. Everman. Approval was held up until the commission could be fully informed about the matter.

Boiler and industrial service proper is not affected by the lower rate. The saving in cost is being offered to the householder only, who is expected to profit materially by the reduction this winter.

The action of the company came as a complete surprise to city officials. The last negotiations with the company over rates was in 1927 when permission to charge higher rates was asked and for a time bitterly contested by the city. A compromise was finally worked out by Supervisor Everman which was accepted by both the city and the company.

The present move on the part of the company, while founded on sound economic premises, is thought to also arise as a token of appreciation for the considerate public utility policy of the city of Dallas as largely determined during the last 10 years by Mr. Everman.

The rapid growth of the city, combined with the large expansion of the use of natural gas in the home to operate domestic appliances, such as gas refrigerators and both heating and cooking stoves, are economic factors credited with aiding the company to make the decision to lower the rates. The reduction is expected to so encourage the consumption of natural gas in all the homes of Dallas that the loss in revenue from a lower rate will be offset by the greater volume of consumption.

In the new schedule offered by the company the old base charge of 16.67 cents per 100 feet for the first 700 feet consumed in a month remains. The saving shows up after that minimum consumption, since the new schedule, on a sliding scale, drops to 5.56 cents per 100 feet after 50,000 feet have been consumed. The present rate requires the householder to burn 300,000 feet before he receives this cheapest rate of 5.56 cents per 100 feet.

SASKATCHEWAN FRANCHISES

CHATHAM, Ontario, Jan. 11.—Announcement has been made by T. P. Jones, vice president of the Montana Utilities Corp., that his company has secured tentative franchises to supply natural gas from Montana fields to the cities of Moose Jaw and Regina in southern Saskatchewan. The gas supply will be developed from the Bowes structure south of Chinook, Mont., and will be piped to Havre, Chinook, Malta and the Saskatchewan cities. The line is very much shorter than the proposed line from the Turner Valley Field to the Saskatchewan markets.

WASTE GAS COMMISSION

CHATHAM, Ontario, Jan. 11.—An interim report of the commission appointed by the Dominion and Alberta governments to investigate the waste gas problem deals to some extent with proposals to shut in the Turner Valley gas as a conservation measure. The report indicates that the bulk of the property affected is privately owned; and that there is a probability that the shutting in of the gas, even if it could be carried out in all cases, might adversely affect the quantity and quality of the crude naphtha production. The final report is likely to be completed early in the new year.

WEST TEXAS GAS COMPANY

The West Texas Gas Co. will move from Amarillo to Lubbock, Tex., as soon as the new building being erected in Lubbock is ready for occupancy. R. F. Hinchey, vice president of the company, will be in charge. The South Plains Pipe Line Co. will occupy one-half of the lower floor, while the West Texas Gas Co.'s general offices will occupy the upper floor. This company supplies many towns in the Panhandle and the Plains and West Texas counties with gas transported from gas wells in the Panhandle. Midland, Tex., is the farthest southwestern town now using gas transported by this company from the Panhandle.

VALUATION OF COMPANY SUSTAINED IN COURT

COLUMBUS, Ohio, Jan. 11.—The public utilities commission of Ohio has been upheld by the Ohio Supreme Court in all respects except one in the valuation it has placed on the property of the Logan Gas Co., for rate-making purposes. The single modification of the commission's order may boost the valuation as much as $1,800,000.

Even should the valuation be increased by $1,800,000 it will be about $9,000,000 lower than the value claimed by the company in seeking to establish new rates in more than 30 communities which have been paying increased rates under bond for nearly five years.

The one respect in which the court modified the commission's order pertains to the valuation the commission had allowed for the company's producing gas acreage. The commission allowed a valuation of only $7,880.62 for this item as contrasted with a valuation of approximately $1,870,000 claimed by the company. In making the exception, the court sent the case back to the commission with orders to fix an actual value on these leaseholds as being property "used and useful" in conduct of the company's business. The figure allowed by the commission for the leaseholds represented only the actual cost to the company of the leases.

The total figure fixed by the commission as the proper valuation of the property for rate-making purposes was $10,845,890.80 as compared with the company's claim of $22,227,208.78. Even if the company's full claim for the producing leaseholds is allowed on the commission's rehearing of the case, the total value would be only about $12,715,000 and the court's order does not require that this full figure shall be allowed.

The commission may or may not take additional testimony to determine the value of the leases.

GAS WASTE ESTIMATED

CHATHAM, Ontario, Jan. 11. — Discussing Eugene Coste's reported statement that gas waste in the Turner Valley Field amounted to $1,000,000 daily, C. J. Yorath, president of the Canadian Western Natural Gas, Light, Heat & Power Co., of Calgary, made the following statement:

"I am not trying to belittle the value of gas wasted in Turner Valley daily, but the figure is certainly not anywhere near $1,000,000. The gas produced in Turner Valley amounts to 280,000,000 feet. Calgary consumes about 30,000,000 feet daily, which leaves about 250,000,000 feet daily wastage. The average price paid for gas in Calgary is 30 cents per 1,000 feet, which would make the value of the wastage about $75,000 daily. The average price payable throughout Canada is 50 cents, which would make the value of the wastage about $125,000 daily."

STANDARD GAS REPORTS SATISFACTORY PROGRESS

Reports from various properties in the Standard Gas & Electric group indicate satisfactory results in the development of new business.

Efforts to stimulate residential consumption were particularly successful. In practically all instances the campaigns of the different subsidiaries to place more electric appliances in the homes exceeded the figure set at the outset.

The Philadelphia Co. system, which is the largest division of the Standard Gas & Electric group, made notable progress in sales of heaters, ranges and other domestic appliances. A new high record in house heating sales also was established.

The power and steam sales division added a total net contract load of 2,878 kilowatts during the month. Fourteen new contracts were obtained. Two isolated plants closed down.

Three new steam contracts were obtained during October adding to the steam load 9,279 pounds per hour. The new steam business obtained during the month brings the total so far this year to 65,029 pounds per hour or 5,029 pounds per hour in excess of the quota.

Among the outstanding steam contracts obtained during the month was one with the Pennsylvania Railroad for its new freight house at Twelfth and Pike Streets, Pittsburgh. This is the first freight warehouse to use central station service in eastern United States.

The industrial gas division added an estimated annual gas load of more than 50,000,000 cubic feet during October. Industrial gas sales for the month were up 19.4 per cent.

Considerable power load was added by the Wisconsin Public Service Corp. while good increases were made in gas house heating installations.

The Louisville Gas & Electric Co. obtained new business in October to a degree substantially above previous months of this year and well above October, 1928. Industrial and commercial lighting, rural development and domestic house heating showed healthy increases.

The Northern States Power Co. is experiencing an exceptional market for new power business in industrial fields and in large building installations.

In Minneapolis a large building program has been progressing during the past two years which has resulted in large additions to the connected load. Buildings now under construction will add to this total. A similar building program is contemplated in St. Paul within the next two years.

New feed mills throughout the territory of the Northern States Power Co. continue to be a source of additional new power business. Merchandise sales in October were large in volume, being higher than in any month during the past two years, and 43.5 per cent above October 1928.

Rural service has been extremely active, the number of rural customers in the Wisconsin division having increased 61.6 per cent since January 1 this year.

Business conditions throughout the territory of the Southern Colorado Power Co. indicate improved activity. Large manufacturers are receiving orders for future delivery while in the mining districts there is considerable activity.

REDUCTION IN GAS RATES

SAN FRANCISCO, Calif., Jan. 11.—A reduction in gas rates amounting to $200,000 annually to consumers of Los Angeles County has been announced by the State Railroad Commission.

Accepting an offer of the company to reduce rates to the amount named, the commission directed the Southern Counties Gas Co. to place the new rates in effect on and after January 15.

The order is one of a series growing out of the commission's check-up of earnings of major utilities of the State. It makes effective the reduction in rates offered by the company in settlement of the rates investigation instituted by the commission.

Santa Monica, Santa Barbara, Ojai and Camarillo consumers will be the principal beneficiaries under the rate ordered, although some reduction in rates is extended to other consumers of the company.

HELIUM PURIFICATION PLANT PAYS ITS COST

After 19 months of operating, the helium repurification plant at Scott Field, Belleville, Ill., has paid off its cost of construction, $44,370, and has, in addition, saved the Government the sum of $21,514.

Helium, after a certain period of use in the gas bags of balloons and dirigibles, is rendered impure by air that has leaked into the bag, by dust, and by moisture. When it is first pumped into an airship it is from 95 to 98 per cent pure, but when it has reached a point where it is only 80 per cent pure its lifting power has decreased to such an extent that repurification is necessary.

Previous to the installation of the plant at Scott Field, it was necessary to recompress the gas taken from the airships, ship it to Fort Worth, Tex., where it was repurified, and then reship it to Scott Field. This procedure resulted in the cost of repurification per thousand feet being $26. Repurified locally the process costs the Army Air Corps but $1.25 a thousand cubic feet.

Scott Field is the center of lighter-than-air activities of the Air Corps. Airship training is being carried on at that station for the Air Corps airship pilots, but the balloon and airship school is now temporarily inactive.

The field is under the command of Lt. Col. John A. Paegelow, who, during the World War, was in charge of all American lighter-than-air activities in France.

GAS FOR INDIANA TOWNS

Entrance into Indiana for the purpose of distributing natural gas is to be made by Missouri-Kansas Pipe Line Co. by the first of the year, Frank P. Parish, president, said. Workmen are welding pipe sections together on the Kentucky side of the Ohio River, east of Owensboro and these will be placed on pontoons and dropped on the river bed some time soon. Immediately thereafter, gas service is to be supplied for domestic and industrial use, under franchise rights, to the towns of Cannelton and Tell City on the Indiana side of the Ohio.

Gas supplies from these Indiana communities, the first in that state to be served by the Missouri-Kansas, will come from wells in Daviess and Ohio counties in the Ohio River territory. The company has been granted permission to operate in Indiana through the formation of the Indiana-Kentucky Natural Gas Corp., a subsidiary.

DECEMBER SALES

Natural gas sales of Missouri-Kansas Pipe Line Co. increased 32,000,000 feet in December, compared with the month of November, it is announced by Frank P. Parish, president. December deliveries to clients amounted to 437,000,000 feet. The gain in December gas sales was nearly 8 per cent.

IDEAL

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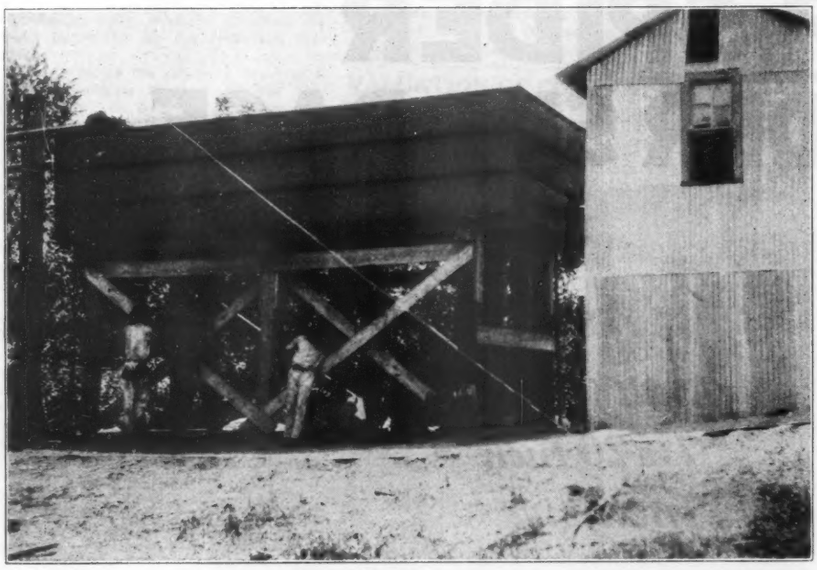

Above: A condenser box of ARMCO Ingot Iron that has given long, trouble-free service for the Continental Petroleum Company. Below: ARMCO Ingot Iron on these storage tanks is serving after 19 years' service. Right: A 17-year-old ARMCO Ingot Iron agitator at the Utah Oil Refining Company, Salt Lake.

FOR atmospheric, underground, and submerged conditions in the Oil Industry, there need be no guesswork on the kind of material to use. Choose rust-resisting ARMCO Ingot Iron, the iron with a service record of twenty-two years behind it—*the longest record of actual service of any low-cost, rust-resisting sheets and plates.*

Photographs, installation data, and the testimony of users are convincing evidence of the durability and economy of ARMCO Ingot Iron in the service for which it is intended.

So when you require sheets or plates for roofing, siding, tanks, pipe, tubes, agitators, condenser boxes, stacks, breeching, or other similar uses, there need be no experimentation or speculation. Just be certain it is made of ARMCO Ingot Iron.

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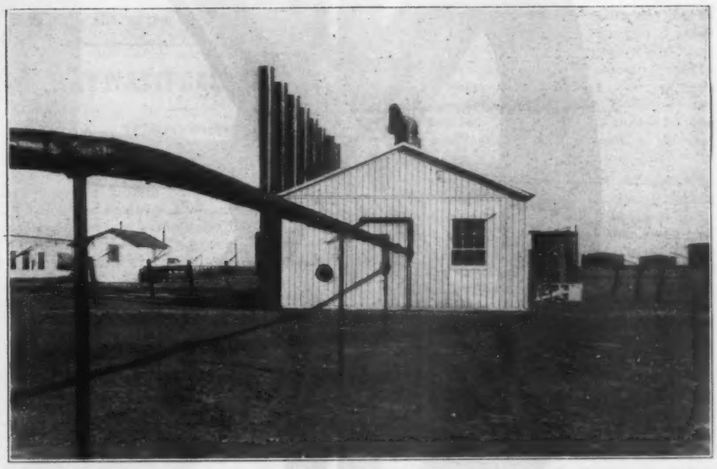
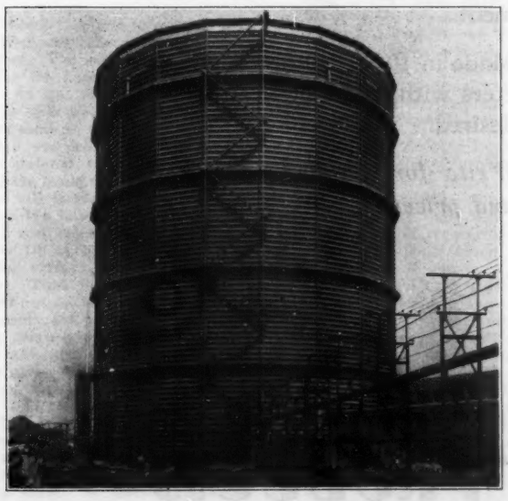
If choice of materials hangs in the balance, let a Development Engineer from our nearest office call and help you decide. He will tell you frankly whether ARMCO Ingot Iron is best adapted to your needs. This co-operation obligates you in no way and brings with it thirty years' experience of the world's largest exclusive makers of special analysis iron and steel sheets and plates.





Upper right: One of many ARMCO Ingot Iron Standard Metal Buildings in service in the producing field. Lower right: Far-sighted marketers protect their filling-station buildings with durable ARMCO Ingot Iron roofing. Above: A "waterless" gas holder at the Hamilton (Ohio) Coke & Iron Company's plant, in which rust-resisting ARMCO Ingot Iron plates are used for important parts.

ROLLING MILL CO.

Middletown, Ohio

International Corporation

New York Pittsburgh San Francisco
Philadelphia St. Louis

ARMCO

Back of this familiar symbol is nearly 30 years of experience in the manufacture of special analysis iron and steel sheets and plates. When you seek a rust-resisting, low-cost metal, be sure to see this triangle and the words "ARMCO Ingot Iron." It is your assurance of dependable, economical service.

PARKERSBURG

Has served the oil fields of the world for 32 years

TYPE "M"

STEEL BAND WHEELS

Ship channel arms fitting closely over cast bosses on flanged hub, takes shear off bolts and prevents play in arms. No loose bolts or rivets. Minimum vibration. True running.

Type "M" band wheels are adapted for use with either chain driven or friction type sand reels.

Furnished with either double or triple tug pulleys as optional equipment.

Made in 10, 11, 12 or 14 foot diameters with 12, 14 or 16 inch face as desired.

Write for detailed specifications and prices.

THE PARKERSBURG RIG & REEL COMPANY

EXECUTIVE OFFICES & MAIN PLANT

PARKERSBURG, WEST, VA.

PARKERSBURG PRODUCTS

Steel Derricks and Steel Crown Blocks	■	Rig Irons (A.P.I. Standard)	■
Chain Driven Sand Reels and Bailing Reels	■	Portable Drilling Machines (Wood and All-Steel)	■
Steel Wheels	■	Bolted Steel Tanks	■
All-Steel Standard Rigs	■	Miscellaneous Drilling Equipment	■

Check the equipment in which you are interested, tear out and return this coupon, with your name and address, to us, and we will send you complete information on the items checked.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

SALT WATER CAUSES TROUBLE

We recently drilled into a gas sand at 2,916 feet and then drilled on down to 2,924 feet. The well was allowed to blow open for 24 hours and then was shut down. At the end of the 24 hours the well was still producing 3,000,000 feet of gas, the same as when first gauged. The well then was drilled to 2,927 feet, where we encountered salt water.

We have made several attempts to shut off this salt water, but have been unsuccessful. We have tried plugs as well as packers run on the tubing and cement jobs, by filling up the hole with water from the surface until the well is quiet on top. That is, the gas having been drowned out by the water; we have then run cement, but we have been unable to get the cement to set up.

The rock pressure is over 800 pounds in this well. With the well completely quiet on top when the hole is full of water and no gas whatever coming through, would there be any agitation in the bottom of the well? Please advise me if a cement job would be possible in this well and the method of mixing and running same. Is there any packer or plug that would do this job?

When the well is allowed to flow open a test shows it to be making 250 bbls. of salt water each 24 hours.—V. B. S.

Your problem is a difficult one because of the limited space in the hole in which you can work, for it is understood you have only drilled 11 feet into the sand and somewhere in the lower three feet you have encountered this water. This makes it appear to be water that accompanies the gas, but lying lower in the stratum and is therefore unusually hard to shut off because the space into which the plug can be forced is so limited.

The United States Bureau of Mines has published a bulletin prepared by the late F. B. Tough, entitled "Methods of Shutting Off Water in Oil and Gas Wells" (Bulletin 163, 1918), which describes in detail the McDonald process which might be applied to your well. This bulletin can be obtained from the United States Bureau of Mines, Washington, D. C., for a nominal price.

If you had more space lead wool might be used to advantage but in 3 feet of hole it is unlikely that you could get a satisfactory plug with that material.

It's possible that you could run a string of tubing to the bottom of the hole, then pack it off for some distance above the lower three or four feet, and then pump in a colloidal mixture under sufficient pressure to permit it to enter into the pore spaces of the sand and shut off the water. Later the hole could be plugged with cement by pumping it down through the same string of tubing, but perhaps raised slightly for the second operation.

After the cement has had time to set, the tubing and the packer above it could be removed from the hole, even though it might be necessary to redrill the upper part of the sand to open the sand face again for the gas to escape into the hole. The principal difficulty with the foregoing plan would be making sure that the packer around the tubing was perfectly tight, for if the colloidal material leaked back up and into the portion of the sand producing the gas, the gas would be shut off, too.

PROBABLE OIL DISCOVERY

As a man who has been considering (with a steadily decreasing feeling of certainty, by the way) investing some of his small capital in the oil business, I would like to ask if there is not a constantly contracting likelihood of success. Perhaps I should explain that the branch of the oil business I have been thinking of is that of drilling in territory where only a few wells have been put down. These wells, however, have been encouraging. It seems to me though that with the tremendous activity in working new pools as they are discovered and the limited area that remains to be prospected the end of the string must be about reached. What do you think?—N. A. S.

Without touching in the least the subject of whether it would be wise or unwise for you to invest money in the oil business (or any other business), this much may be said here with respect to the chances of recovering oil from proven fields and from fields yet to be discovered:

Oil occupies a paradoxical position among minerals in the respect that new discoveries, new researches and new developments have tended to increase rather than decrease the possibilities of its discovery.

It is known that petroleum deposits may occur in sedimentary rocks of any age from the oldest to the youngest, and in any structural position. The greater part of the earth's surface is composed of sedimentary rocks. But all sedimentary rocks do not contain oil.

The aggregate acreage of all the actually producing areas in the United States is insignificant compared with the total area of the sedimentary rocks in this country. There are numerous examples in the history of the oil industry of tests having been drilled in a region without success, the region abandoned, and then, after a time, redrilled and found to contain important deposits.

With oil the proof of discovery is in the drill. Estimates of reserves are usually made "in the light of present knowledge of fields and present-day producing methods." With the expansion of operations, knowledge of fields, of new methods, and of oil occurrence, is constantly widening, requiring constant revision of estimates of reserves. Producing methods are changing, affecting recovery from known pools and, therefore, estimates of remaining resources.

MEASURING GAS AT THE WELL

How is gas measured at wells? What is meant by "rock pressure" and how is it estimated? Will you give me the names of books where such is explained and tell me where I can obtain them?—R. H. L.

The method employed in measuring gas at the well would depend upon whether the pressure at the bottom of the hole or that at the well head were to be obtained. Instruments employed in ascertaining pressure conditions at the bottom of the hole include a "thief" for getting samples of fluids under pressure, a recording pressure bomb, a maximum pressure bomb and a diaphragm pressure gauge. The thief, the recording pressure bomb and the maximum pressure bomb are run into well together to acquire comprehensive bottom-hole data. The two pressure bombs are used so that the maximum pressure readings may be checked. The diaphragm pressure gauge is a metal diaphragm the upper side of which is open to a pressure chamber and tank and the under side to the well pressure. This gauge is run into a well through either casing or tubing. All these instruments and the method of using them are described in detail in a paper by K. C. Sclater and B. R. Stephenson in the 1928-1929 Transactions, Petroleum Development and Technology, published by the American Institute of Mining and Metallurgical Engineers, 29 West Thirty-ninth Street, New York.

Various kinds of equipment have been used in ascertaining the rate of flow of gas wells. In experiments conducted by H. R. Pierce and E. L. Rawlins of the United States Bureau of Mines, the low-pressure funnel meter, the critical flow meter and the orifice meter were used.

Other methods of measuring the flow of natural gas from wells include the Pitot tube and the closed-in pressure drop. The Pitot tube is the oldest and simplest device for this purpose, but it involves serious waste of gas and it is being supplanted by more efficient ways. The closed-in pressure drop method is described by Claude P. Parsons in The Oil and Gas Journal of December 6 and 13, 1928.

The term "rock pressure" has been used loosely by drillers, operators and others to describe gas pressure. Authoritative writers on the subject say it should be used to designate the pressure exerted on underlying rocks by superimposed rocks. Determination of rock pressure is a rather complicated procedure and probably need not be gone into here.

WHY WAS IT CALLED THAT?

HORSEPOWER

Nobody in speaking of horsepower thinks of a horse, but the domestic animal which the automobile seems to be driving toward extinction actually provided the basis on which this unit of measurement rests.

As a measure of the rate of work one horsepower is the amount of energy required to raise 33,000 pounds 1 foot in one minute. The term was used originally by James Watt and Matthew Boulton to designate the power of steam engines. It was ascertained by actual trial that the average horse could work constantly at the rate of 22,000 foot pounds per minute. This was increased by one-half in establishing the arbitrary unit of power now in universal use.

AGREEMENTS IN REPRESSURING

A question has arisen as to what sort of equitable arrangement might be made where adjoining oil properties are owned by different companies and both are considering repressuring operations. Can you tell me whether some form of agreement to fit such cases has been figured out?—S. N. A.

An arrangement commonly adopted where different owners of adjoining property desire to enter upon co-operative repressuring operations provides that their input wells shall offset one another or be staggered along the property lines and equidistant from the lines, that equal injection pressures shall be maintained in all input wells, and that equal volumes of gas shall be injected into each offsetting input well. Some arrangements call for the holding of equal back pressures in the producing wells on each property, and others require maintenance of certain agreed pressures in the formations. In a few fields, input wells have been drilled jointly by adjacent property owners along the boundary line between their properties, and these wells are being supplied with equal volumes of gas from each property or from a central compressor plant.

In some cases the gas for repressuring purposes is collected from the different properties and brought to a central compressor plant, where it is compressed and prorated, or sold by meter, to the differerent operators. Usually the central compressor plant is run by one operator, and sometimes a flat rate for compression service is charged, less frequently the expenses of operating the compressor plant are prorated among the operators drawing gas from the plant.

Under still another plan representatives of the operators meet and decide which wells on each property should be used for gas injection wells. The input wells are selected with respect to water, sand and structural conditions, and property lines. A volume of gas jointly agreed upon is then injected into each selected input well, and the volume increased or decreased as occasion demands, provided, of course, that the change in the volumes of gas to be injected is approved by all parties concerned. Changes in the location of input wells or changes in operating conditions must receive the approval of all operators before the changes are made. It often has been found advisable to equalize so far as possible the shut-in pressures where this co-operative method of repressuring is being carried on. This is done by changing the volumes of gas injected into the input wells. For example, if the pressure in one input well is 60 pounds per square inch and the pressure in the offset input well is 40 pounds per square inch, it would be necessary to increase the volume injected into the 40-pound well and decrease the volume injected into the 60-pound well to equalize pressure conditions. Otherwise the pressure in the input well, operating under the highest pressure, might have a tendency to drive oil toward the offset leases or to areas under low pressure.

In one Mid-Continent field the properties are evaluated and placed under unit control, with the expenses and revenues allotted to each owner on the basis of original appraisal. Line pressure wells are drilled and operated on a 50-50 basis; staggered pressure wells are equipped and operated by the owner on whose property the wells are located. By mutual agreement the production of oil, and principally the production of gas, is controlled by regulating the back pressures held on the producing wells.

Are You Paying for TIMKEN BEARINGS Without Getting Them?

The basic requirements of an efficient anti-friction bearing are (1) anti-friction efficiency, (2) maximum radial capacity in the smallest unit of space, (3) thrust capacity without sacrificing the principle of design, (4) combined radial and thrust capacity, (5) take-up to facilitate assembly and compensate for wear.

In buying anti-friction bearings you pay for every one of these qualities, and you have a right to expect and demand every one of them. For anything short of that does not give you the anti-friction advantages required in your product.

The Timken Tapered Roller Bearing is the *only* anti-friction bearing that meets *all* of these requirements. Are you getting full value for your anti-friction money—or are you *paying* for Timken Bearing advantages without getting them?

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

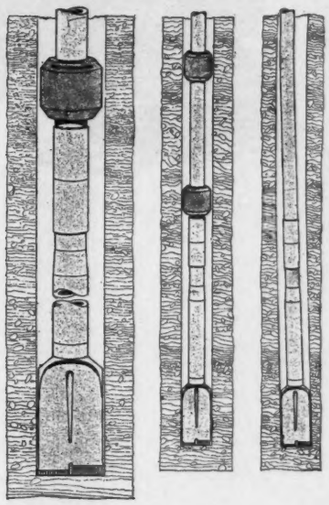
TIMKEN *Tapered Roller* **BEARINGS**

EQUIPMENT AND SUPPLIES

STABILIZER HELPS IN STRAIGHTER DRILLING

A new development by the Patterson-Ballagh Corp., Los Angeles, Calif., is the Bettis drill stabilizer, designed to keep the drill centered and in vertical position, preventing side play and wobble and resulting in straighter drilling of the hole. The stabilizer is in reality an adoption of the Bettis protector, in that it is of virtually the same shape but coming in much larger sizes to run through casing from 9⅝-inch to 20-inch inside diameter.

These huge protectors, made entirely of



Left, close-up, showing stabilizer in position; center, showing how stabilizers are set about 10 feet apart; right, without stabilizer, showing tendency of drill stem and pipe to go off center.

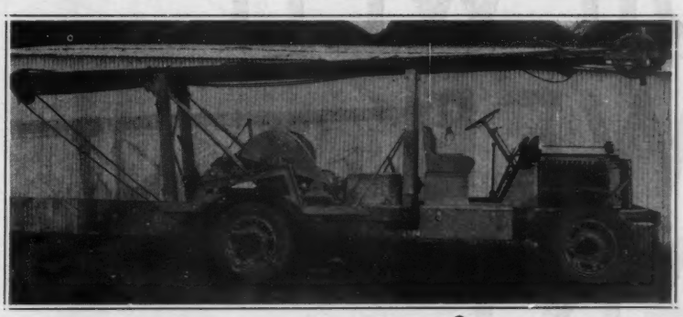
rubber in the same manner as Bettis protectors, are placed upon the drill stem immediately above the drill, spaced approximately 10 feet apart. Some operators continue the installation up to the bottom of the casing so that the drill pipe as well as drill stem retains its centered position in open hole.

The point of greatest distortion in the drill string, according to many drillers, is immediately above the drill and in open-hole formation the pipe, when digging hard, tends slightly to corkscrew within the hole. By the use of Bettis drill stabilizers, the manufacturers say, the pipe is forced to retain its vertical position regardless of the weight imposed upon the string. In the larger dimensions of stabilizers, holes are bored through the wide surface of rubber constituting the resilient cushion, to facilitate circulation. In the smaller sizes of stabilizers there is ample play between the rubber and the wall of the formation so that circulation is not hindered.

An expanding tool is used in conjunction with a cone so that the rubbers can be slid into their proper place. Their extreme tenacity, due to inherent resiliency and the fact that they are stretched from a diameter smaller than the outside diameter of the drill stem and pipe, prevent them from slipping.

The Metric Metal Works of American Meter Co., Inc., Erie, Pa., have issued a new specification sheet covering all sizes of iron case meters from 5-B to 500-B inclusive. This sheet shows maximum working pressures, type and size of connections, low pressure capacities and recommended maximum hourly rates for high pressure measurement. It also gives complete data on the dimensions of top and side connections.

PORTABLE TUBING AND ROD MACHINE IS INTRODUCED



The Wichita Falls Motor Co., Wichita Falls, Tex., co-operating with Morrison & Jackson, is introducing a new tubing and rod machine designated as the "M & J Wichita." This machine is an adaptation to a Wichita truck of a pulling unit designed by Morrison & Jackson. Model "20," pictured here, is for depths to 2,500 feet. A larger machine, the Model "40," and capable of use at 4,700 feet, is also available.

Power for these machines is supplied by the Waukesha motor in the truck through a Brown-Lipe four or seven-speed transmission and a specially designed power takeoff. The machines are of exceptionally rugged construction throughout and are said to have remarkable speed in the handling of tubing and rods. They are portable under their own power, having a road speed of 30 to 35 miles per hour. The entire pulling unit is built into the truck and made a part of it.

The mast, carried in a folded position as shown, is of telescope construction and so arranged that it may be raised to its 40-foot height by the power from the motor and lowered in the same manner. Only a few minutes is required to set this machine up for operation and its simplicity of operation makes it possible to pull tubing and rods with only three men in the crew.

BUSINESS NOTES

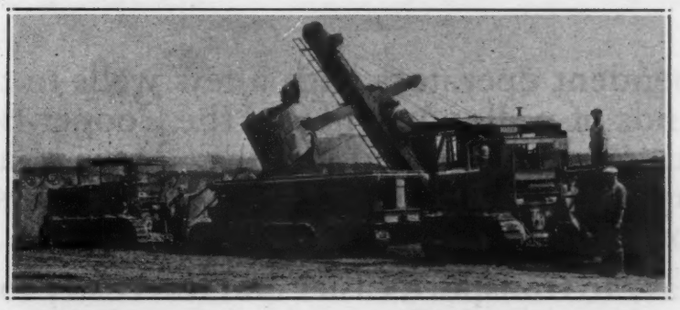
James A. Woods, chairman of the board, and A. A. Buschow, president of the Bridgeport Machine Co., Wichita, Kans., have announced distribution of over $10,000 worth of common stock of the company to employes regardless of the time of employment.

The Bruno Manufacturing Co., maker of can and bottle filling machinery, and the Vol-U-Meter Co., Inc., manufacturers of filling, cleaning and agitating equipment for steel drums and barrels, both of Buffalo, N. Y., have been merged under the name of Vol-U-Meter Co., Inc.

B. C. Browning has been made representative in Tulsa for Oakite Products, Inc., New York.

A 77,000-square-foot condenser is to be built by the Worthington Pump & Machinery Co., Harrison, N. J., for the Ford Motor Co.'s River Rouge plant in Fordson, Mich. This will be the largest unit ever built by Worthington.

GULF TRANSFORMS WASTE LAND INTO OIL COMMUNITY



A-C Monarch 75's hauling creeper wagons on job at Port Richmond, Staten Island.

Transformation of hopeless waste land inhabited by millions of mosquitos into an industrial community is in progress on a 600-acre site at Gulfport, near Staten Island, N. Y. Here the Gulf Refining Co. is building an oil tank farm at a cost of $45,000,000.

Tractors creep about the tract like a lot of ants. Everywhere dirt is flying. About 500 mechanics are employed in constructing Gulfport, building a huge oil plant, where 5,000 men later will be employed refining oil.

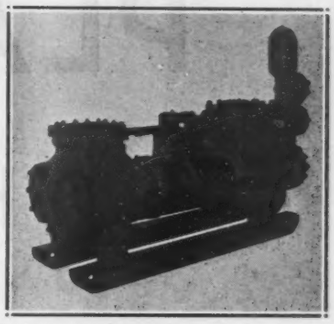
Modern engineering and construction methods are making possible this creation of an industrial community on barren waste land. Shovels and draglines, tractors and wagons, scrapers and bulldozers have been working for months in the sandy loam and swamp, preparing the site for the 24 huge oil tanks, power houses, office buildings and other needed structures. Of the 18 tractors in operation, 15 are Allis-Chalmers Monarch "50" and "75" track type.

The big oil tanks are being constructed by the Riter-Conley Corp. of Pittsburgh, Pa. Each tank requires several hundred tons of steel and some 75,000 rivets.

LUCEY PUTS NEW SMALL SLUSH PUMP ON MARKET

The Lucey Products Corp. has designed a small slush pump to take care of heavy pressures in territories where big heavy-duty pumps are not needed. This pump has many of the features familiar to the users of the large Lucey pumps, including short direct fluid passages, oversize piston rods, steel tie rods, forged steel liners and sled-type steel skids.

The water end is hydrostatically test-



ed to 2,000 pounds both in suction and discharge and is equipped with bevel type valves and seats. The water valves have forged steel bodies and a 2-inch stem which extends below the insert. The steel crowfeet are threaded and fitted with heavy castellations and serve as nuts to retain the insert. The steam end is of extra-heavy construction to stand extreme steam pressures and is equipped with balanced slide valves.

The patented steel tie-rods are an exclusive Lucey feature rendering the cradle practically unbreakable.

FWD TRUCKS FOR 1930 EMBODY NEW FEATURES

New truck models for 1930 announced by the Four Wheel Drive Auto Co., Clintonville, Wis., are FWD Commercial Utility of 3½ tons capacity and the FWD H6 of 2 tons capacity.

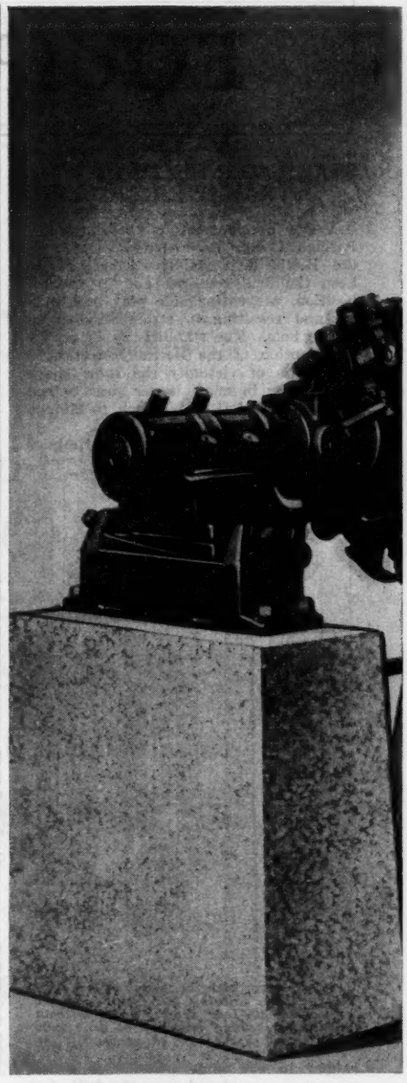
The FWD Commercial Utility model is equipped with an improved five-speed transmission, six-cylinder motor, electric starting and lighting system, pneumatic tires, 3-yard body and enclosed cab. It is painted in a striking combination of red, black and green.

The FWD H6 has a 3½ by 4½-inch, high-speed, six-cylinder, seven-bearing crankshaft engine of 58 horsepower. A multiple dry disc clutch and four-speed transmission are mounted in unit with the engine. The front and rear axles are of the full floating type and 34 by 7 single pneumatic tires are standard equipment. The truck is equipped with a de luxe type weatherproof cab and a 2-yard dump body and hoist.

Improved appearance and new standards of simplicity mark the 1930 models, which provide modern tractive units for heavy-duty service and a wide range of operation. Four-wheel distribution of power, four-wheel distribution of load and four-wheel traction are said by the manufacturers to meet the requirements of the oil fields and other difficult work where varying loads and road conditions demand equipment to meet emergencies.

An unusually attractive calendar is being distributed by the Cooper-Bessemer Corp., Mount Vernon, Ohio. A limited number are said to be available for persons who have not received one.

AN OIL WELL POWER PLANT WHICH SCORES HIGH ON RESULTS!

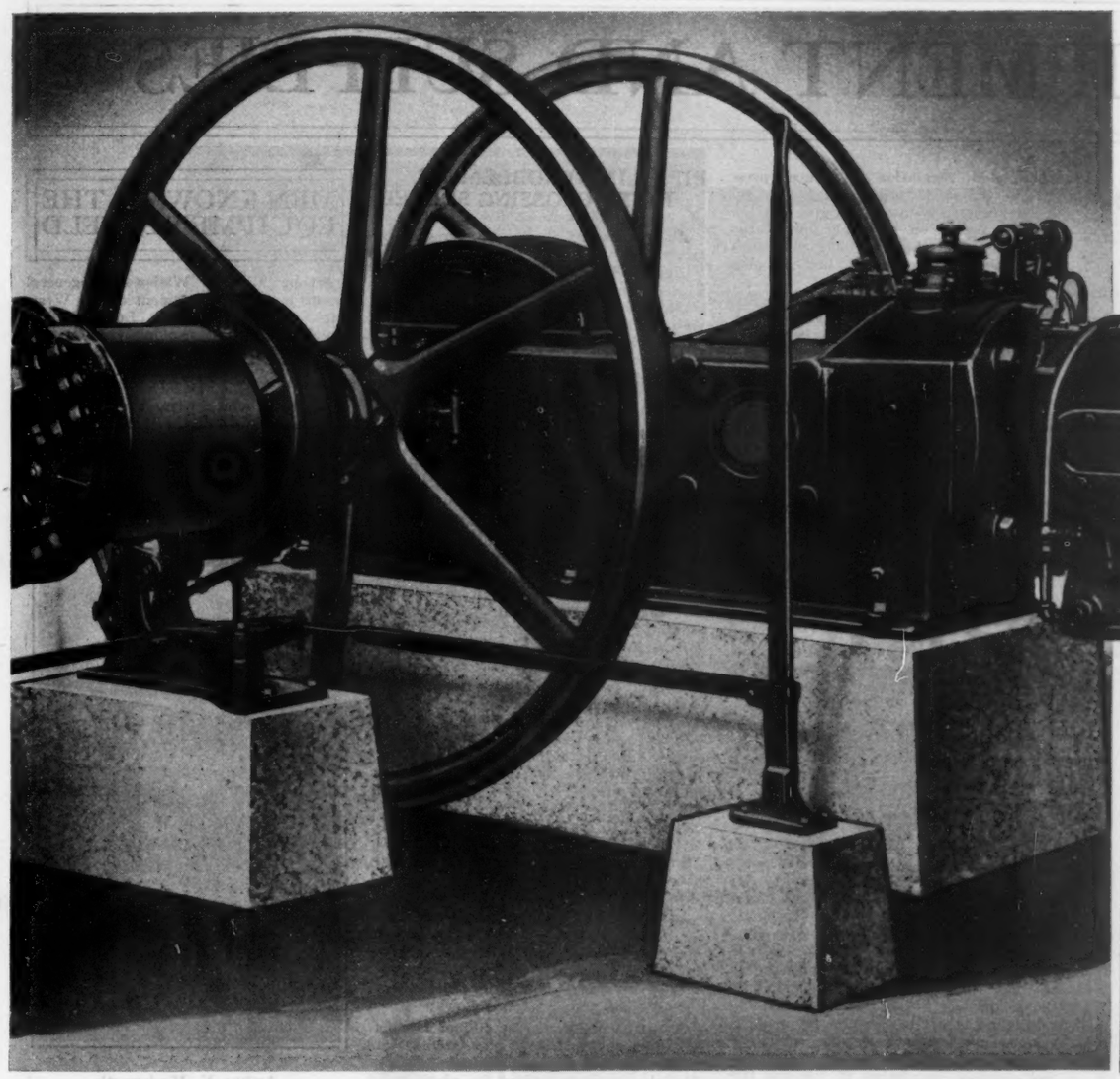


TYPE O. F.

FROM independent operators with a few wells to the large companies with thousands of wells you will find the Cooper-Bessemer Type O. F. engine standard for pumping and drilling. More than three decades of country-wide application to the needs of producers decide the design and construction of this 2-cycle gas driven unit.

Besides being easy to transport, easier and less costly to operate, Type O. F. is adaptable for pumping, drilling, agitating and cleaning out, pulling rods and tubing, and other belt-drive work. Sizes are 25, 30, 35, 40, 50 B. H. P.

COOPER-



YOU'RE ALWAYS SAFE IN CHOOSING A COOPER-BESSEMER

SIX REASONS WHY IT IS CHOSEN

1. Enclosed bed plate keeps out all dust, dirt and grit.
2. Easily accessible, adjustable air valve on top of bed plate makes starting easy.
3. Adjustable and removable main bearings (Timken optional) — oversize to permit longer life.
4. Large, quick-opening side plates give easy access to adjustable crosshead.
5. Outside bolting of cylinder makes its removal easy and simple.
6. Quickly accessible water jacket, easy to clean and keep clean.

THE COOPER-BESSEMER CORPORATION

Formerly The C. & G. Cooper Company and The Bessemer Gas Engine Company

Mount Vernon, Ohio Grove City, Pa.

Branches in all principal oil and gas fields

BESSEMER

EQUIPMENT AND SUPPLIES

NEW RELIEF VALVE IS ANNOUNCED BY FISHER

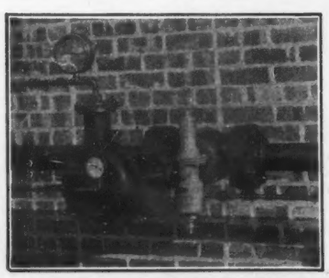
Experimenting, laboratory testing, and field applications have preceded announcement by the Fisher Governor Co., Marshalltown, Iowa, of the new Fisher series 2200 auxiliary control, which is said to be particularly adapted for service in the oil industry. This pressure regulator or relief valve can be installed either indoors or outside. All moving parts are completely enclosed. The regulator is ruggedly constructed to stand misuse. This control, the manufacturers say, is made so that it can be installed in any conceivable position in a pipe line.

Accompanying illustrations show a

With panel board mounting and main valve.

series 2200 regulator placed in two of the four possible positions. The design incorporates simple means of adjustment to make the device adaptable to the variable conditions encountered in the field. Controlling means are plainly marked so that the adjustment may be easily understood.

All valve trimming in the auxiliary control units is made of stainless steel

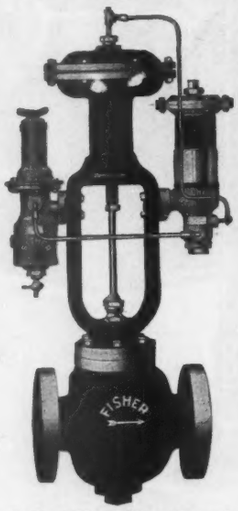


Installed in a horizontal position in a horizontal pipe line.

or other corrosion-resisting materials. These parts, after years of service, may be easily renewed and the control placed in its original condition.

This auxiliary control is designed particularly for four types of service: (1) where the closest possible regulation of pressure is required; (2) where the load or flow of fluid fluctuates widely; (3) where close regulation of reduced pressure is important even though this reduced pressure is almost as great as the initial pressure on the high side of the regulator; (4) where extreme conditions of pressure, temperature, or corrosion are present.

The series 2200 control is recommended for relieving the variable volume of gas coming from an absorber tower



Fisher Series 2200 auxiliary operated pressure controller.

in a natural gasoline plant. A similar application is recommended for stabilizer towers. When provided with a vacuum diaphragm control, it can be used to maintain a definite suction pressure in the gas line connecting the field with the compressor house. This insures uniform loading of the compressors and increased plant capacity.

As a boiler pressure governor this control provides regulation of the gas fire under the boiler according to the changes in the boiler pressure. It also gives control of the gas pressure on the burners, so that this pressure will not apply a gas pressure greater than that for which the burners are designed.

In the oil refinery there are many applications for this control, either as a relief valve or pressure regulator for handling steam, gas, water and oil. A specific installation is one for relieving hot tar at extreme pressures and high temperatures.

The series 2200 is also built with panel board mounting so that the auxiliary control can be placed at a remote point away from the main valve. Either type of construction can be provided in any pipe size from 1 to 18 inches inclusive. All styles of pipe connections and valve trimming are available. By means of four sizes of diaphragms on the control unit, it is possible to obtain a pressure range of 8 ounces to 600 pounds.

CHANGES IN SALES PERSONNEL

A. F. Marwick, formerly general sales manager for the Pettibone-Mulliken Co., has joined the Chicago district sales staff of the Taylor-Wharton Iron & Steel Co. and William Wharton, Jr., & Co., Inc. G. V. Wood, formerly located at the Highbridge plant of the Taylor-Wharton Iron & Steel Co. is now western sales manager for Taylor-Wharton Iron & Steel and associated companies. Mr. Wood's headquarters will be in San Francisco. J. R. Van Rensselaer, formerly sales representative with Taylor-Wharton's San Francisco distributor, is now in the New York office of William Wharton, Jr., & Co., Inc.

PIPE LINE PROBLEM AT RIVER CROSSING SOLVED

As a part of its development program a large gas company in the Hudson River Valley recently planned to install an oxwelded 8-inch high pressure line tying together three of its plants and also providing service for communities that had not previously been supplied with gas, says "Oxy-Acetylene Tips," published by the Linde Air Products Co., New York. The line is designed for an ultimate pressure of 100 pounds per square inch, but will carry about 45 pounds per square inch at first.

Two of these plants are about 15 miles apart on the same side of the river while the third is located on the opposite side of the river, the width at this point being slightly over a mile.

Construction of the shore line proceeded in accordance with standard practice. A feature was the use of a gas wagon carrying an acetylene generator and cylinders of oxygen to supply the firing line gang of welders.

The river crossing involved special consideration and careful study. The design developed for the crossing specified that the pipe was to be joined with a standard butt weld and that a refinforcing sleeve consisting of a 36-inch length of 9-inch standard pipe was to be placed over each joint and welded to the pipe at each end. The use of this sleeve made is possible to test the three welds at each joint by applying pressure inside the sleeve. Specifications called for a test pressure of 350 pounds per square inch.

For use in making the crossing a railroad car ferry barge about 280 feet long was obtained. With a barge of this length it was possible to schedule the various operations so as to insure continuous production at a maximum rate. The procedure decided upon was as follows:

A sufficient number of 40-foot lengths of 8-inch extra heavy pipe were first double-lengthed to form 80-foot sections. The sleeves were welded in place and, after testing, the pipe was coated with a protective material. Double-lengthing was done on the barge so that when this operation was completed the barge was ready to move into position for the crossing. The barge was of sufficient length so that three of these 80-foot sections could be lined up along the center, giving three operating positions. In the first position nearest the front of the barge the butt weld was made; in the second position the sleeve was welded; and in the third position test pressure was applied to the sleeve. The barge was moved by means of a pile driver, using lines attached to anchors set in position along the line of crossing.

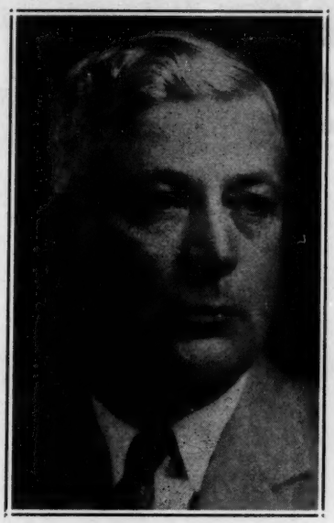
Before being allowed to work on the double-lengthing or river crossing, welders were required to pass tests for these operations. At all times the work of the welders was under the close observation of a competent inspector.

ONE MAN CAN ERECT DA-LITE

The Da-Lite floodlight, made by the Da-Lite Floodlight Co., Kansas City, Mo., is sturdily and substantially constructed, but light enough in weight for one workman to erect it without the aid of special equipment. It is equipped with adjustable brackets which permit the proper focusing of the beam divergence or light rays. The sockets are of the Mogul base type and are designed to be fitted with 1,000-watt base-up burning lamps. The interior has a special reflector finish and the exterior an aluminum finish. Filling stations and airports are among the places for which these floodlights are recommended by the manufacturer.

MEN KNOWN *in* THE EQUIPMENT FIELD

Arthur Vincent Wadsworth, general manager and vice president of the Westcott Valve Co., East St. Louis, Ill., is described as a young man of the old school, old in experience, young in ideas. Born on Oil Creek, a few miles below Titusville, Pa., and educated in the public schools of Oil City, he learned the machinist's trade in the National Transit Co. shops in the latter place, then he studied engineering and served as a traveling machinist on pipe line works for National Transit subsidiaries. After this Mr. Wadsworth went to Ohio, took



Arthur V. Wadsworth

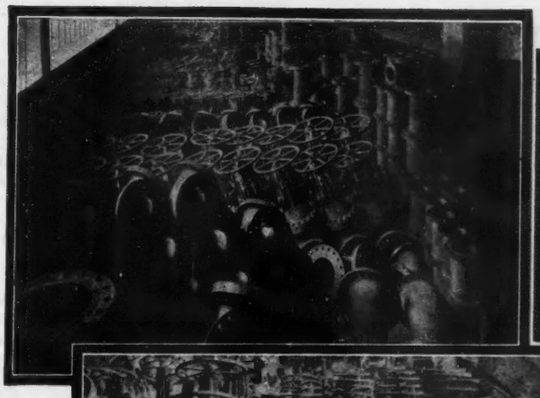
charge of the Buckeye Traction Ditcher Co. and developed the pipe line trench excavator.

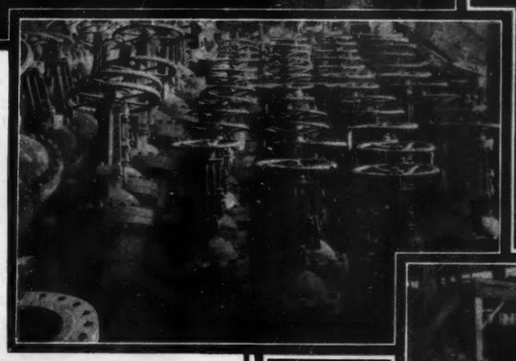
From 1917 Mr. Wadsworth was in military service in the ordnance department. At the close of the war he assumed charge of the Pomeroy Machine Co. plant in Pomeroy, Ohio, later absorbed by the Parkersburg Rig & Reel Co. Soon after the death of Henry Westcott he joined the Westcott Valve Co., then in Seneca Falls, N. Y. Since then the company has discontinued the manufacture of all products other than those used in the oil and gas business. Mr. Wadsworth, familiary known as "A. V.", plans to spend much of his time traveling about the Mid-Continent and Canadian fields.

MOTOR SAID TO AVOID WASTE

The Wright Aeronautical Corp. of Paterson, N. J., has acquired the exclusive license to manufacture an aviation engine invented by Alfred Schwarz, consulting engineer of the Holloyt Motor Corp. of New York and president of the Wing Aeronautical Corp. of New York. The new motor is said to avoid waste from cooling waters, unburned gases, etc.

The calendar for 1930 distributed by the Columbian Rope Co., Auburn, N. Y., presents another illustration of Charles Robert Patterson's intimate knowledge of sea life. The picture, "Sunrise on the Grand Banks," shows a fishing schooner overhauled by a big American square-rigger bound for some North American port.





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MEN KNOWN IN OILDOM

O. C. Whitling

Born in Richmond, Pa., in 1874, and receiving his early oil training there and in other Pennsylvania oil fields of almost a half century ago, including St. Petersburg and Parkers Landing, O. C. Whitling, general production superintendent of the Minnehoma Oil Company, started out "on his own" when he was 17. His first job was that of a pumper for the Ohio Oil Company in St. Mary's, Ohio. Three years later he worked for the Forest Oil Company in Neodesha, Kans., for six months on a cleaning-out string and dressing tools, after which he worked as pumper, gang pusher and tool-dresser for the Sun Oil Company in Warren, Ind. Jobs as tooldresser for John DeWiggins and for Dan McCormick followed.

Mr. Whitling and a buddie bought Mr. McCormick's tools and started contracting. In 1907, Mr. Whitling bought some producing wells in Illinois and sold his interest in the tools to devote all his time to handling this production. He sold it in 1916 and tried farming for two years, at the end of which time he was delighted to return to the oil fields.

In 1918, Mr. Whitling went to Tulsa and started to work for the Oklahoma Producing & Refining Corporation of America as a lease foreman at Sperry. When the company was bought out by the Pure Oil Company he went with the new company. He was in charge of its Okmulgee district when he left it in 1926 to join the Minnehoma Oil Company.

PERSONAL PARAGRAPHS

H. C. McMurtray, of the Luling district, was a recent business visitor to San Antonio, Tex.

* * *

T. C. Banta, formerly with the Graver Corporation, is now associated with the Smith Engineering Company, of Kansas City, Mo.

* * *

Maj. C. H. Loane, Pittsburgh, Pa., with the Southwest Pipe Line Company, visited his mother and friends in Oil City, Pa., recently.

* * *

E. L. Laird, superintendent of the land department for the California Company, Dallas, Tex., is spending a vacation in California.

* * *

R. J. Lindsay, of Mount Vernon, Ohio, vice president of the Hope Engineering Company, was in Denver, Colo., several days recently.

* * *

M. E. Lombardi, director of the California Company, San Francisco, Calif., has been spending some time at his old home in Houston, Tex.

O. J. Haynes, of the land department of the California Company, Los Angeles, Calif., is spending some time in the company offices at Dallas, Tex.

* * *

G. H. Jaques, general superintendent for the Midwest Refining Company, has left his offices in Casper, Wyo., for a business trip to the company's holdings in Craig, Colo.

* * *

R. L. Jordan, who represents the Ethyl Gasoline Corporation, at Chicago, is still confined to his home by a broken leg which resulted from an automobile accident.

* * *

W. D. Moore, of the Moorlane Company, has returned to Tulsa from an eastern trip, having visited the factories of the manufacturers he represents in the Mid-Continent.

* * *

Grant McCargo, president of the Pennsylvania Lubricating Oil Company, a subsidiary of the Standard Oil Company of New Jersey, is wintering at Pasadena, Calif.

* * *

T. C. Towl, Pittsburgh, Pa., superintendent of the Southwest Pipe Line Company, and Mrs. Towl, were visitors at the former's parents' home in New York City.

* * *

Roy C. Cronise, Pittsburgh, Pa., dispatcher and director of the Southwest Pipe Line Company, and Mrs. Cronise, have been visiting the latter's mother in Mannington, W. Va.

* * *

C. T. Lupton, geologist, and A. C. Grandbouche, both of Denver, have been in Hot Springs, S. Dak., to inspect the reported oil strike on the Barker structure in Custer County.

* * *

John Darr, of Pittsburgh, Pa., retired superintendent of the telegraph department of the Southern Group of Pipe Lines, and Mrs. Darr, have gone to Florida to spend the winter.

* * *

A. T. Wright, independent operator and discoverer of the Fry Pool, Brown County, has returned to Fort Worth, Tex., from New Mexico where he has operated for the past year and a half.

* * *

C. B. Carlon, of the Pure Oil Company, in the accounting department in Tulsa, has been transferred to the company's office in Houston, Tex., as general manager of the Gulf Coast division.

* * *

H. H. Fitzpatrick is in charge of the proration schedule for the Darst Creek oil field, Guadalupe County, Texas. He has established headquarters in Seguin where he will be assisted by M. E. Williams.

* * *

W. S. (Billy) Ackerman, of the Associated Oil Company, has returned to the main office at San Francisco, Calif., after surveying several sand and gravel deposits in which the company has been interested.

* * *

Hugh V. McGivern, chief gauger for the Oklahoma Pipe Line Company, Tulsa, returned last week from Pittsburgh, Pa., where he had been called by the death of his brother-in-law, John A. Lambing.

* * *

John I. MacFarland, of Calgary, Alberta, prominent in a number of Turner Valley oil companies, has been elected a director of the Manitoba Bridge & Iron Works, which recently established a plant in Calgary.

* * *

R. E. Wooster will represent the Johnson Oil Refining Company in the State of Wisconsin and the upper peninsula of Michigan during the coming year. He has been connected with the Pure Oil Company.

* * *

J. S. Adams, one of the old-timers in the sale of petroleum products, having distributed kerosene in Illinois back in 1886, will continue with the Johnson Oil Refining Company, Chicago, covering the States of Illinois and Iowa.

* * *

Edward Cook, until recently of The Texas Company, will travel for the Johnson Oil Refining Company, Chicago, in Indiana and Southwest Michigan. J. W. Butler will continue as Michigan representative with headquarters at Detroit.

Y. P. Wilson, a member of the geological staff of the Anglo-Persian Oil Company, has been transferred to the Iraq Petroleum Company, Ltd.

* * *

John O. Stapp, well known to Illinois and Indiana oil jobbers from his long association with the Marland Refining Company, and other refiners of gasoline and other products, will represent the Barnsdall Refineries, Inc., in Illinois.

* * *

Harry Freese, operator in the Owensboro, Kentucky, Field, has returned from a visit to relatives and friends in Toledo, and Elmore, Ohio. Mr. Freese is an old-timer in the Kentucky Field, having been among the first in the Irvine Field in Estill County.

* * *

Richard Battle, for many years associated with leading supply companies, has joined Hanlon-Waters, Inc., in the capacity of sales engineer and will cover Oklahoma, Kansas, northern Arkansas, and the Texas Panhandle with headquarters in Tulsa.

* * *

Harold M. Fritts, geologist for the Shell Petroleum Corporation, at Mexia, Tex., was in Dallas on company business. For the past year Mr. Fritts has been working the area around El Paso, Tex., but was moved to Mexia soon after the Van Pool was opened.

* * *

Mr. and Mrs. Glen M. Ruby, of Vancouver, British Columbia, have been in Lincoln, Neb., and Denver, Colo. Mr. Ruby went to Canada several years ago in charge of activities for the Marland Oil Company. He is now at the head of the Nordon Oil Corporation in Canada and California.

* * *

F. O. Martin, of the Union Oil Company's geological department, who spent several years doing geological and survey work on the company's holdings in Colombia, South America, has just returned from a trip to Germany, having been gone from the Los Angeles office for about four months.

* * *

J. E. Kobernik, vice president and general manager, Engineering Research Equipment Company, is now located in Tulsa, 727 Exchange National Bank Building, where he will have charge of that office. Mr. Kobernik was formerly located at Dallas, Tex.

* * *

John M. Brokaw, geologist for the Pure Oil Company, has been transferred from the southwestern division headquarters at Tulsa to San Angelo, Tex., succeeding Peter Baggs, who recently was transferred to Los Angeles, Calif., with M. E. Roberts. S. W. Brock has succeeded Mr. Roberts as district geologist at San Angelo.

* * *

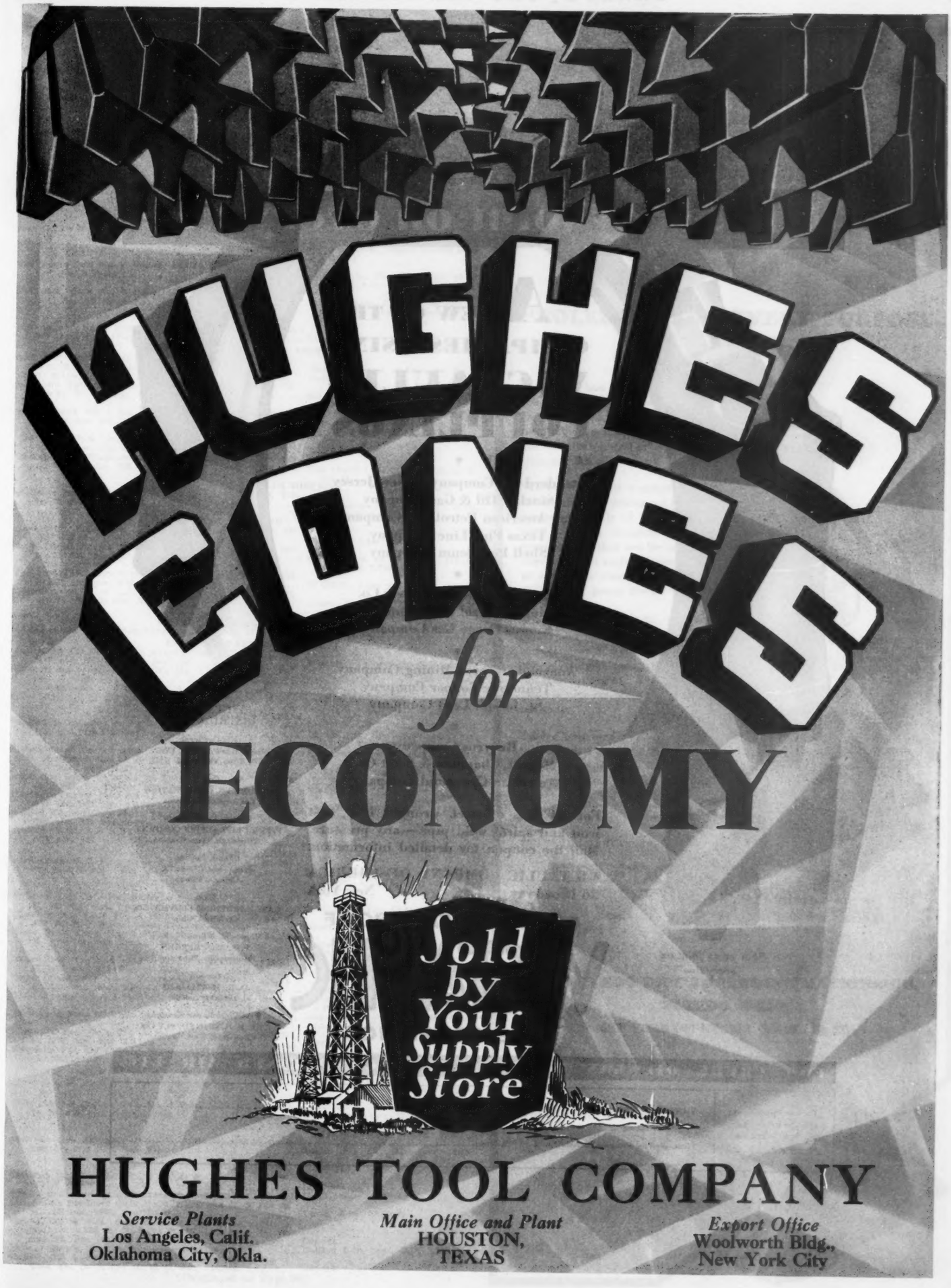
Louis Roark, formerly with the Red Bank Oil Company as chief geologist, resigned effective January 2. Mr. Roark will continue as a consulting geologist. Mr. Roark spent five years as chief geologist with the Kingwood Oil Company and the same number of years with the Shell Petroleum Corporation, stationed at Okmulgee, Okla.

* * *

C. A. Russell, vice president and director of the Republic Production Company, has moved from San Angelo, Tex., to Houston, Tex. Mr. Russell has risen to these positions since coming to San Angelo in October, 1925, as district geologist. He will continue to supervise West Texas and New Mexico operations from the company's offices at Houston, in addition to taking charge of the Gulf Coast operations for the company. Jerry Chestnut, district land man, will succeed Mr. Russell as general manager in West Texas, and B. H. Bentley will direct geological work.

* * *

L. V. Surtees, manager of the Waterloo division of the Mid-Continent Petroleum Corporation, was at the Stevens Hotel, Chicago, on his honeymoon trip. Mr. Surtees is well known to the oil industry having been connected with the refinery at West Tulsa and with the Chicago office. While with the Chicago office he superintended the filming of the moving picture illustrating the production, refining and distribution of petroleum. He has lectured before many of the distributors' sales organizations. He was made assistant manager at Waterloo about one year ago and on the promotion of Robert McDowell became manager of the Waterloo, Iowa, division.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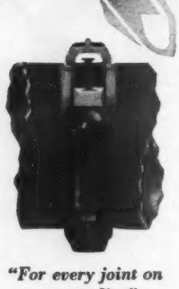

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LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 54)

SW cor., Sec. 30-23-11 ..... Derrick.
675 ft. S, NW cor., Sec. 31-23-11 ..... Waiting on fishing tools; T.D. 3,062 ft.

The Texas Co.'s No. 3 Hy. Rose Merch. Co., 4,126 ft. E, 1,520 ft. S, NW cor., Sec. 31-23-11 ..... S.D; repairing rig; T.D. 2,953 ft.

CADDO PARISH—GREENWOOD

Eastern Carbon Co.'s No. 1 Z. Abney, Sec. 8-17-16 ..... Tested 2,000,000 ft. gas 2,749 ft; arranging to deepen.

CADDO PARISH—HOSSTON

Bayou State Oil Corp.'s No. 28 Jolly, 500 ft. N, 150 ft. W, SE cor. NE, Sec. 22-22-15 ..... W.O.S.R. 1,004 ft.
Bayou State Oil Corp.'s No. 29 Jolly, 425 ft. W, 775 ft. N, SE cor. NE ..... W.O.S.R. 1,014 ft.
Bayou State Oil Corp.'s No. 18 Levee Board, 450 ft. N, 150 ft. E, SW cor. NW, Sec. 23-22-15 ..... W.O.S.R; T.D. 1,003 ft.
Bayou State Oil Corp.'s No. 1 Owens, 1,220 ft. S, 560 ft. W, C, Sec. 21-22-15 ..... Rigging up.

CADDO PARISH—DIXIE

Sam Gold's No. 3 Hunter, 660 ft. N, 660 ft. W, SE cor. SW NE, Sec. 17-19-14 ..... 200 ft. oil and S.W. in hole 2,457 ft; W.O.S.R; topped broken sand 2,415 ft.

The Texas Co's No. 3 Sentell, 866 ft. N, 340 ft. W, SE cor. Sec. 9-19-14 ..... Began drlg. Dec. 31; cmtd. 10-in. 104 ft; 6-in. 2,400 ft.

Gulf Ref. Co.'s No. 6 Oden, 660 ft. S, 660 ft. W, NE cor., Sec. 18-19-14 ..... Cmtd. 6⅝-in. 2,380 ft; drilled to 2,444 ft; plugged back to 2,423 ft.

Lide et als' No. 1 Dickson heirs, 795 ft. N, 200 ft. E, SW cor., Sec. 10-19-14 ..... Coring 2,400 ft.

CADDO PARISH—OIL CITY

Gulf Ref. Co.'s No. 22-A Levee Board, 1,126 ft. S, 100 ft. E, NW cor. NE, Sec. 34-21-16 ..... Bailing to test; T.D. 1,839 ft.
H. M. Matson's No. 1 U. S. Gov't (no check) ..... Derrick.
Magnolia Pet. Co.'s No. 19 Doan-Thigpen, 330 ft. N, 990 ft. W, SE cor., Sec. 6-20-15 ..... Set 5 3-16-in. liner; bailing to test 1,660 ft; old T.D. 3,051 ft.

P. T. Mize's No. 1 La. O. R. Corp., 445 ft. N, 100 ft. E, SW cor. SE, Sec. 1-20-16 ..... Began drlg. Dec. 23; cmtd. 10-in. 62 ft; drlg. 915 ft.

The Texas Co.'s No. 72 Levee Board, 725 ft. N, 210 ft. E, SW cor. SE, Sec. 27-21-16 ..... Rigging up.
Thompson & Fitzsimmons' No. 1 Howell, 600 ft. S, 300 ft. W, NE cor. SE, Sec. 13-22-16 ..... Top chalk 1,580 ft; drlg. shale 2,060 ft.

CADDO PARISH—VIVIAN DISTRICT

Oilfields Expltn. Co.'s No. 15 Caldwell, 810 ft. S, 810 ft. E, NW cor., Sec. 29-22-15 ..... Began drlg. Jan. 2; cmtd. 10-in. 65 ft; drlg. 450 ft.

PINE ISLAND

Double II Oil Co's No. 13 Spell 750 ft. N, 450 ft. W, SE cor. NE Sec. 15-21-15 ..... W.O.S.R. 1,441 ft.
E. W. McGoldrick's No. 1 Dreyfuss-Lane, 515 ft. N, 300 ft. E, SW cor. NE, Sec. 15-21-15 ..... Cmtd. 10-in. 40 ft; 6-in. 1,510 ft; W.O.S.R; 1,700 ft.

Shreveport Oil Corp.'s No. 3 Hicks et al, 420 ft. S, 450 ft. W, NE cor. NW, Sec. 22-21-15 ..... W.O.S.R. 2,125 ft.
Simplex Oil Co. et als' No. 1 Tom Thomas, 200 ft. N, 660 ft. W, SE cor. NE, Sec. 15-20-15 ..... Began drlg. Dec. 31; cmtd. 10-in. 63 ft; drlg. 2,050 ft.

CLAIBORNE PARISH—HOMER

Oakes et als' No. 1 Richardson, NE SE, Sec. 19-21-17 ... S.D. 1,700 ft.

LA SALLE PARISH—URANIA

Ark. Fuel Oil Co.'s No. 5 Urania, 200 ft. S, 200 ft. E, NW cor. NE SE, Sec. 24-10-1e ..... Reaming to bottom; T.D. 3,950 ft.
Kinney, Hardtner & Randall's No. 1 Kinney, SW SW, Sec. 7-10-2e ..... S.D. 1,570 ft.
S. D. Ray's No. 1 Urania, Sec. 19-10-2e ..... (No check); began drlg. Dec. 31; cmtd. 10-in. 100 ft; drlg. 1,450 ft.

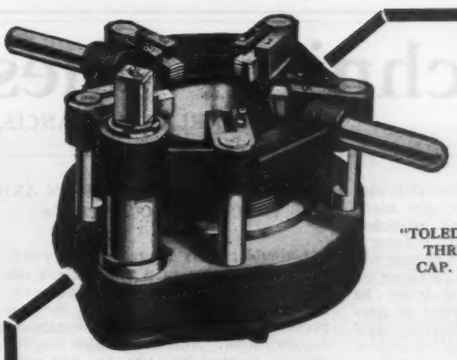
MOREHOUSE PARISH

Bahan & Bahan's No. 3 Feazel, 990 ft. S, 990 ft. W, NE cor., Sec. 3-20-4 ..... Began drlg. Dec. 31; cmtd. 12-in. 182 ft; drlg. 800 ft.
Consolidated Carbon Co.'s No. 2 White, Sec. 16-20-4 .... Drlg. shale and boulders 1,988 ft.
J. S. Herkness' No. 12 Bowles, 3,392 ft. E, 3,300 ft. S, NW cor., Sec. 18-20-5 ..... Cmtd. 9-in. csg. 2,190 ft.
Nat. Gas Prod. Co.'s No. 25 Crossett Lbr. Co., 1,444 ft. S, 793 ft. W, NE cor. NW, Sec. 29-21-5 ..... Rigging up.
Southern Carbon Co.'s No. 14 Tensas, 660 ft. N, 660 ft. E, SW cor. NW Sec. 34-21-4 ..... Cmtd. 8-in. csg. 774 ft.
United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 ..... Location.
United Carbon Co.'s No. 3 Patton, 660 ft. W, 660 ft. S, NE cor. SE, Sec. 2-20-4 ..... Location.

OUACHITA PARISH

Amalgamated Carbon Co.'s No. 2 Cole, 742 ft. E, 703 ft. S, NW cor., Sec. 43-19-4 ..... Began drlg. Nov. 27; cmtd. 12-in. 185 ft; 8-in. 890 ft; drlg. 3,116 ft.
Chauvin Gas Co.'s No. 3 Slagle Johnson, 2,539 ft. S, 55 ft. E, NW cor., Sec. 47-18-4 ..... Cmtd. 6-in. csg. 2,144 ft.
Chauvin Gas Co.'s No. 4 Slagle Johnson, 4,505 ft. S, 257 ft. E, NW cor., Sec. 47-18-4 ..... Location.
Hope Prod. Co.'s No. 1 Fairbanks, 660 ft. N, 624 ft. E, SW cor. SE, Sec. 25-20-4 ..... Tested dry 2,200 ft; coring 2,370 ft.
Hope Prod. Co.'s No. 2 Fairbanks, 1,876 ft. E, 628 ft. N, SW cor. SE, Sec. 25-20-4 ..... Location.
Hope Prod. Co.'s No. 3 Fairbanks, 1,876 ft. E, 628 ft. S, NW cor. NE, Sec. 36-20-4 ..... Location.
G. E. Jordan's No. 1 Anding, NW NE, Sec. 18-18-5 ..... Plugging back to 2,234 ft; T.D. 2,480 ft.
La. Gas & Fuel Co.'s No. 1 Beard, Sec. 46-18-4 ..... Began drlg. Jan. 3; cmtd. 12½-in. csg. 1,871 ft.
Magnolia Pet. Co.'s No. 2 fee 401, 660 ft. S, 660 ft. E, NW cor., Sec. 2-18-3 ..... Derrick.
Magnolia Pet. Co.'s No. 4 U. S., Sec. 20-19-5; reported completed July 31, in error ..... Tested 1,000,000 ft. gas at 515 lbs. rock pressure; set liner 2,528 ft; bailed dry; plugged back to 2,200 ft; estimated 500,000 ft. gas; W.O; waiting orders 2,528 ft.
New Process Carbon Co.'s No. 2 Cole, 1,971 ft. E, 1,820 ft. N, SW cor., Sec. 35-20-4 ..... Began drlg. Dec. 31; cmtd. 12½-in. 179 ft; 8⅛-in. 2,190 ft; drlg. 2,753 ft.
Sho-Van Gas Products Co.'s No. 3 W. Va., 1,980 ft. S and W, NE cor., Sec. 8-18-4 ..... Began drlg. Dec. 31; cmtd. 12-in. 182 ft; 8-in. 793 ft; drlg. 1,700 ft.
Sho-Van Gas Products Co.'s No. 4 W. Va., 1,078 ft. N, 294 ft. W, NE cor., Sec. 49, in Sec. 7 ..... Location.
Southern Carbon Co.'s No. 14 Fairbanks, Sec. 43-20-4.... Drlg. shale 2,003 ft.
Union Gas Products Co.'s No. 1 Hare, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 32-19-5 ..... Cmtd. 6-in. 2,265 ft.
United Oil & Nat. Gas Products Co. of La.'s No. 5 Guthrie, 6,896 ft. N, 6,022 ft. W, cor. Secs. 49, 26, and 35, Sec. 49-20-5 ..... Derrick.
Palmer Corp's No. 1-A Earle, Sec. 2-16-5 ..... Bailing 6-in. csg.; T.D. 2,283 ft.
United Oil & Nat. Gas Products Co. of La.'s No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

(Continued on Page 98)



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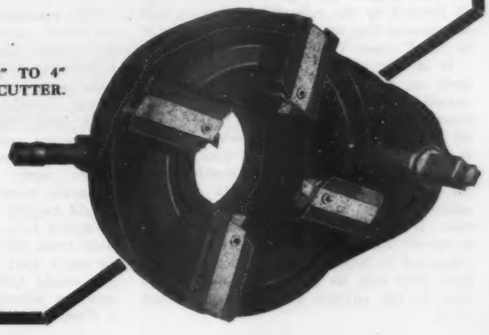


Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

UNDERGROUND REFINING AT HIGH AND LOW TEMPERATURES

Certain heavy oils come to the surface quite hot and others very cold. The hot oils are heavy and the cold ones light. Why is this? Could these facts be made use of for underground refining either at high or low temperatures?—A. F. W.

The uniform increase of temperatures below the surface of the ground is quite generally known to be approximately 1° to 5° F. for each foot in depth, and this fact usually explains the high temperatures which are noted for some crude oils. In some instances it appears that hot water from a greater depth is the transfer medium for the heat. The heavy oil produced in the Tampico district flows from the wells at a temperature of approximately 180° and this temperature facilitates its movement through pipe lines. Hot water is believed to be the source of heat in this field.

The production of very low temperatures in some wells may be related to heat. At a great depth any oil that may migrate into the surrounding sand may be distilled to some extent with the production of gas and the more volatile liquids, such as a high gravity gasoline. These would, if favorable structural conditions existed, move to a cooler zone where they would remain until released by the drill. The release of the gas, or liquid of a volatile character, from a high pressure to a low one would result in the lowering of the temperature. A natural, almost pure gasoline, very light oil formed by the release of pressure and subsequent low temperature is that found in the Turner Valley, in Canada.

It is not clear how any combination such as these, which are usually separated by great distances, could be combined for the refining of oil. Of course we are always expecting somebody to invent a means for tapping the heat that is known to be stored at great depths from the surface of the earth. If an economical means were discovered for doing this, it would be possible to separate crude oil into its various fractions before removing it from the well. Probably the first step will be to bring some of this heat to the surface and there make use of it.

NATURAL GAS COMPOSITION AND VOLUME CALCULATIONS

I would greatly appreciate the following data relative to a natural gas containing approximately 98 per cent methane: Estimate the limit for compressing this gas for safe compression temperatures? Number of cubic feet that may be charged into 100, 150 and 2,000-pound containers under 100, 150, 200, 300 and 400 pounds pressure? Formula for this calculation? Will this be a commercial proposition for making gasoline? —R. B. K.

I cannot undertake to answer questions involving calculations, but shall endeavor to supply outlines of principles and facts relating to the manufacturing branches of the petroleum industry.

The calculations necessary here must make use of the several well known physical laws that explain volume change under varying conditions of temperature and pressure. These gas laws may be found in the standard books on physics and the several books relating to natural gas and natural gasoline.

Pressures and temperatures are commonly stated in scientific work in terms of the metric system, that is millimeters and Centigrade degrees, but in practical work the operators in the United States prefer to make use of pounds absolute when dealing with pressures and Fahrenheit degrees absolute when making temperature calculations. The standard pressure of one atmosphere is 14.7 pounds per square inch, so this number must be added to any gauge pressure indication. Absolute zero on the Fahrenheit scale is minus 460°, and any temperature reading must be added to this number in order to reduce a temperature to degrees absolute.

A convenient standard to remember is the fact that the molecular weight of any gas when expressed in pounds will measure 359 cubic feet at 32° F., or 492° absolute, and 379 cubic feet at 60° F., or 520° absolute. The molecular weight of methane is 16, then 16 pounds of methane will measure 359 cubic feet at 32° F., and in a 100 pounds, at 32°, there would be 6.25 × 359 pound volumes, or 2,243.75 cubic feet.

Volume increases as the absolute temperature increases and the volume decreases proportionately as the absolute pressure increases. A good discussion of these laws in terms of pounds and Fahrenheit degrees may be found in Natural Gas Handbook, by J. C. Diehl, Metric Metal Works, publisher.

REFRIGERATION SYSTEMS

What are the essential points for the expansion and circulation systems used in refrigerating plants? Do both systems have to be combined in order to get the best results?—G. R.

The production of low temperatures by artificial means involves the removal of heat from one medium and transferring it to another. The usual method for doing this is by means of a low boiling-point liquid, which, as it evaporates, extracts heat from the surrounding medium. A convenient substance for this purpose is anhydrous ammonia, boiling at 28.5° below zero. So if some anhydrous ammonia were placed in an open flask it would rapidly expand into a gas, that is it would boil, and the absorption of the heat from the surrounding air would be so rapid that appreciable cooling of the air would take place. This is the elementary principle of direct expansion. As a fixed quantity of the ammonia passes from the liquid to the gaseous form a definite quantity of heat flows from the air causing a definite lowering of temperature.

Anything surrounding the expanding anhydrous ammonia may be circulated and thus produce a circulating system. The usual substances used in a circulating system is a solution of calcium chloride or sodium chloride in water, called a brine solution. The brine solution is convenient for transferring the low temperature to another unit, such as pans or tanks filled with water, where the desired refrigeration is accomplished. Circulation with brine cannot be used for extreme temperature work and is largely used in the manufacture of ice.

It is apparent that the outline given suggests that a brine circulation system starts from expansion and in this respect there is a combination. However, when the refrigeration requires much lower temperature than in the manufacture of ice, then separate units are necessary. An example of this may be illustrated by the arrangement for cooling oils which are to be finished as low cold test lubricating stocks. The steps here are to first chill the oil by means of circulating brine and then transfer the oil to another unit in which direct expansion is used for the extreme temperature.

EXCHANGER AND PREHEATER CALCULATIONS

Would you give me a simple and practical method for calculating the capacities of oil heat exchangers and air preheaters?—W. H.

There are so many things that have to be taken into consideration and the calculations are so involved that it is impossible to make a simple rule for calculating the capacities of heat exchangers. The discussion by Burrell, Recovery of Gasoline from Natural Gas, page 232, may be of some assistance.

The rate of heat transfer, commonly designated K, is the number of B.t.u. per square foot surface per degree mean temperature difference per hour. It is dependent upon velocity of the liquids on each side of the transferring surface. An average of 30 for K is given as a reasonable value to use when estimating surface required in double pipe exchangers.

The calculation may be outlined thus: B.t.u. = gallons oil/hour × weight pounds/gallon × specific heat oil × desired temperature reduction. The mean temperature difference in contra flow unit is as follows:

T = Temp. entering hot oil.
T_1 = Temp. hot oil leaving.
t = Temp. entering cold oil.
t_1 = Temp. cold oil leaving.

Mean temperature difference is obtained by subtracting t_1 from T and t from T_1, arriving at a difference in temperature at both ends of the exchanger thus:

T	T_1
t_1	t
Diff.	Diff.

Add the difference at both ends of the exchanger together and divide by 2 to get the arithmetic mean. Then:

$$\frac{\text{B.t.u. removal/hr.}}{(\text{mean temp. diff.})\ K} = \text{Sq. ft. surface required.}$$

This surface should be so arranged that the velocities used to obtain K are maintained. Assuming that a given efficiency is required, doubling the diameter requires doubling the length of the pipe. Tubes having a constant ratio of diameter to length have a constant efficiency, no matter what the diameter or length may be.

BUBBLE TOWER CALCULATIONS

What is a simple formula for calculating the capacity and operation of a bubble tower?—C. C.

Information relating to towers of this type may be found in:

Motor Fuels, by Leslie.

Distillation Principles, by Young.

Fractional Distillation, by Robinson.

Leslie, page 98, says: "In the design of column apparatus it is necessary not only to provide a number of sections that will allow the required separation, but will also take into account the cost factors. The variables in the design of a column for separating the components of any given solution are those of equations 21 and 22, namely:

1. Composition of products.
2. Composition of liquid in still at any instant.
3. The reflux ratio, which equals Weight of reflux in unit time / Weight of product in unit time.
4. The number of perfect column sections.
5. The weight of the product."

The equations mentioned, as given on page 93, are:

$$\Delta C_{LN} = \frac{V_N (C_{VN} - C_{LN}) - L_P (C_{LP} - C_{LN})}{V_N - L_P}$$

In this equation L_P, C_{LP} and C_{LN} are known. C_{VN} is also known for the perfect column-section, since it is the composition of the vapor in equilibrium with the liquid in the Nth section. V_N may be assumed, but more commonly L_R per unit weight of L_P is assumed, and V_N approximately calculated by taking into account heat quantities. The relationship applicable in this case is

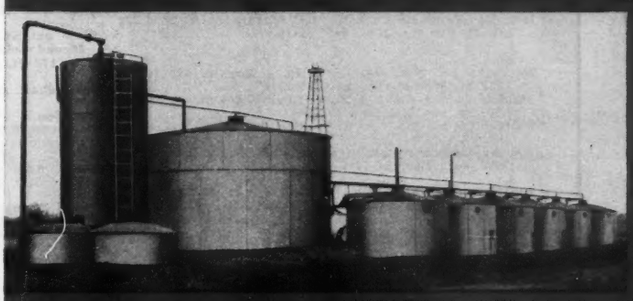
$$V_N = \frac{(L_R + L_P)(C_{LP}(h_b - h_a) + h_a)}{C_{VN}(h_b - h_a) + h_a}$$

The symbols are explained on page 87. C stands for a composition in terms of the more volatile component and as a decimal part of unity. Physical units of weight are referred to. Except when used as subscripts, L stands for a weight of liquid. V stands for a weight of vapor. Subscripts L or V indicate the point in the apparatus where the particular weight of liquid or vapor is located. Subscripts of C consist of two parts, first, a letter L or V indicating whether the composition is that of a liquid or vapor, and second, letters S, N, R, P, etc., indicating the location liquid or vapor whose composition is referred to, as still, nth plate, reflux, etc. Symbols h_a, h_b stand for the latent heats of vaporization per unit weight of substances A and B respectively.

The symbol C will be used to refer to the increment of change in composition from one section of the column to the next.

It is clear that this sort of a calculation is but one part of the problem and is shown for the purpose of suggesting that there is no simple method for determining capacity and operation of a tower.

BUTLER BOLTED TANKS



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Crane Tank Co., at Tulsa, Holdenville, Seminole, Hallett and Shawnee, Oklahoma; El Dorado, Madison, Wichita and Valley Center, Kansas.

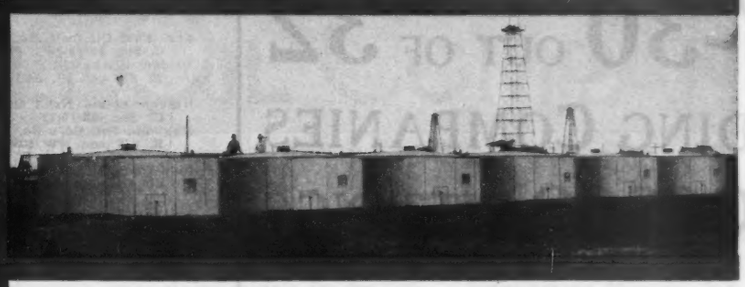
Muskegon Boiler Works, Muskegon, Michigan.

Gulf Coast Tank Company, 1612 Mollie Street, Houston, Luling and Refugio, Texas, W. P. Hughes, Prop.

Thomas Moran, at Oil City, Shreveport and Georgetown, La.

M. A. Trimmer, at Blackwell and Lovell, Oklahoma.

E. E. Rey, Dupo, Illinois.



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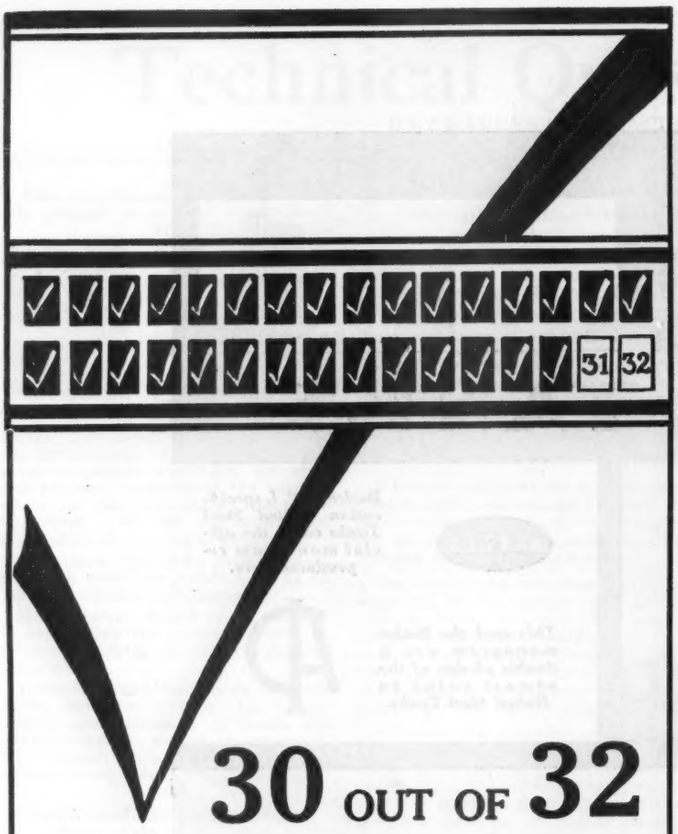

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LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 95)

United Carbon Co.'s No. 1 Puckett, Sec. 15-19-5 ..... Began drlg. Dec. 18; cmtd. 12-in. 187 ft; drlg. 1,820 ft.

United Carbon Co.'s No. 4 Spade, 774 ft. S, 2,081 ft. E, NW cor., Sec. 6-18-4 ..... Began drlg. Jan. 6; drlg. 140 ft.

United Carbon Co.'s No. 5 Spade, 660 ft. N, 660 ft. W, SE cor. NE, Sec. 35-19-3 ..... Rigging up.

United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4 ..... Location.

United O. & N. G. Co.'s No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

RED RIVER PARISH

Root Refineries, Inc.'s No. 1 Home State & Savings Bank, 330 ft. N, 330 ft. W, C, Sec. 8-13-10 ..... Oil show 2,670 ft; drill stem test; S.W; cored sand showing gas 2,698 ft; S.D. 2,667 ft.

Triple Oil Co.'s No. 1 W. M. Pollock, Sec. 33-13-11..... Cmtd. 6⅝-in. 2,456 ft; W.O.S.R.; 2,470 ft.

RICHLAND PARISH

Ark.-La. P. L. Co.'s No. 1 A. E. Purvis, 762 ft. N, 1,180 ft. W, SE cor., Sec. 34-17-6 ..... Cmtd. 9-in. 1.000 ft; drlg. 2,050 ft.

W. C. Feazell's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6 ..... Rig up.

W. C. Feazell's No. 1 E. L. Wilson, 647 ft. N, 241 ft. E, SW cor. NW, Sec. 31-16-6 ..... Cmtd. 6-in. 2,282 ft.

International Gas Products Co.'s No. 1-B Beck, 660 ft. S, 713 ft. E, NW cor., Sec. 36-16-6 ..... Derrick.

Magnolia Pet. Co.'s No. 4 C. M. Noble, 400 ft. S, 660 ft. W, NE cor. SE NE, Sec. 35-16-5 ..... Location.

M. L. Meredith's No. 1 Holdness, 1,980 ft. S, 990 ft. W, NE cor., Sec. 15-16-6 ..... Drlg. 1,420 ft.

Nat. Gas Products Co. s No. 1-C Sartor, 536 ft. N, 1,333 ft. E, SW cor. NW, Sec. 21-16-6 ..... Blew out at 251 ft; began drlg. second hole Jan. 1; cmtd. 15½-in. 172 ft.

Northern La. Nat. Gas Co.'s No. 5 Boykin, 380 ft. N, 157 ft. W, SE cor., Sec. 20-17-6 ..... Drlg. shale and boulders 2,150 ft.

Palmer Corp.'s No. 1-A F. N. Boykin, 660 ft. N, 660 ft. W, SE cor. NE, Sec. 20-17-6 ..... Location.

Palmer Corp.'s No. 1-A Earle, Sec. 2-16-5..... Tested S.W. 2,450 ft; arranging to deepen.

Palmer Corp.'s No. 5 Rhymes, 1,386 ft. N, 599 ft. E, SW cor., Sec. 34-17-6 ..... Cmtd. 6-in. 2,300 ft; bailing to test; T.D. 2,450 ft.

Southern Carbon Co.'s No. 1 Hale, 660 ft. N, 760 ft. W, SE cor.. Sec. 16-16-6 ..... Cmtd. 12-in. 192 ft; 8-in. 838 ft.

Southern Carbon Co.'s No. 1 S. R. Humble, 690 ft. N, 600 ft. W, SE cor., Sec. 26-16-6 ..... Drlg. 6-in. plug 2,280 ft; tested dry 2,465 ft; arranging to deepen.

Southern Carbon Co.'s No. 1 McCoy, 1,980 ft. E, 3,300 ft. S, NE cor., Sec. 16-16-6 ..... Location.

United Carbon Co.'s No. 1 D. R. Sartor, 3,341 ft. W, 3,960 ft. S, NE cor., Sec. 11-16-6 ..... Location.

SABINE PARISH—PLEASANT HILL

Ark. Fuel Oil Co.'s No. 3 Horne, 660 ft. N, 195 ft. E, C, Sec. 33-10-12 ..... Drlg. 3,120 ft.

Bridges-Clarke Oil Co.'s No. 1 Guy, 300 ft. N, 300 ft. E, SW cor. SE SE, Sec. 33-10-12 ..... Began drlg. Jan. 1; cmtd. 10-in. csg. 102 ft; drlg. 800 ft.

Hatcher et als' No. 1 Moore heirs, 300 ft. N, 300 ft. E, C, Sec. 32-10-12 ..... Derrick.

Magnolia Pet. Co.'s No. 5 E. E. Hall, 350 ft. N, 312 ft. E, SW cor. NW SW, Sec. 33-10-12 ..... Standing 2,000 ft. in oil; W.O.S. R. 3,231 ft.

Reid Clark et als' No. 2 Moore, 1,600 ft. N, 330 ft. W, SE cor., Sec. 32-10-12 ..... W.O.S.R; 3,236 ft.

SABINE PARISH—ZWOLLE

Bridges-Clark Oil Co.'s No. 1 Gay et al, 300 ft. S, 300 ft. E, NW cor. NE NW, Sec. 3-9-12 ..... Began drlg. Jan. 1; cmtd. 10-in. 101 ft; drlg. 750 ft.

R. L. Gay, trustee's No. 6 Bowman Hicks, 900 ft. N, 800 ft. W, SE cor. NW SE Sec. 14-7-14 ..... Began drlg. Dec. 30; cmtd. 10-in. 62 ft.

R. L. Gay, trustee's No. 2-A Bowman-Hicks Lbr. Co., 200 ft. S, 200 ft. W, NE cor. NE NW ..... Rigging up.

R. L. Gay, trustee's No. 3 Sabine Lbr. Co., 1,120 ft. N, 200 ft. E, SW cor. Sec. 12-7-14 ..... Drlg. gummy shale 1,413 ft.

Haynes Bros.' No. 1 Dover, 1,120 ft. W, 200 ft. N, SE cor. NE, Sec. 28-8-12 .. .. Began drlg. Jan. 2; cmtd. 10-in. 95 ft; drlg. 600 ft.

Ohio Oil Co.'s No. 1 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. NW SW, Sec. 35-8-12 ..... Coring shale and boulders 2,-320 ft.

Ohio Oil Co.'s No. 2 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. SE SW, Sec. 33-8-12 ..... Cmtd. 12½-in. csg. 80 ft; drlg. rock 1,020 ft.

Olsen Brothers' No. 1 Keeler, SW cor. SW SE Sec. 27-8-12. Bailed down 150 ft. off bottom; no show; T.D. 2,428 ft.

Ruston Drlg. Co.'s No. 1 Bowman-Hicks, 330 ft. S, 330 ft. W, NE cor., Sec. 4-7-12 ..... Derrick.

Ruston Drlg. Co.'s No. 1 Holliday, 330 ft. N, 330 ft. E, SW cor. NW, Sec. 35-8-12 ..... Rigging up.

Sabine O. & G. Co.'s No. 1 Anderson, 200 ft. N, 200 ft. E SW cor. SW NW Sec. 19-18-13 ..... Top chalk 2,190 ft; drlg. 2,300 ft.

A. H. Tarver's No. 2 Long Bell, 800 ft. N. 800 ft. W, SE cor. SW Sec. 18-8-13..... Cmtd. 8-in. 1,860 ft; top broken chalk and shale; T.D. 1,962 ft.

A. H. Tarver's No. 1 Sabine State Bank, 250 ft. N, 250 ft. W, center Sec. 27-8-12 ..... Rigging up.

Tippett Drlg. Co.'s No. 1 Hughes, 200 ft. S, 200 ft. E, NW cor. SW NW, Sec. 36-8-12 ..... Derrick.

UNION PARISH

Lyons Gas Co.'s No. 1 A. B. Edwards, 722 ft. W, 851 ft. S, NE cor. NW, Sec. 11-20-3 ..... Drlg. 6-in. plug; arranging to test 2,166 ft.

United Carbon Co.'s No. 2 Reid, 1,980 ft. E, 720 ft. S, NW cor. SW, Sec. 12-20-3 ..... Cmtd. 6-in. csg. 2,081 ft.

WEBSTER PARISH—COTTON VALLEY

Magnolia Pet. Co.'s No. 1 McCook & Hibbler, C SW SW, Sec. 22-21-10 ..... Coring sand 6,987 ft.

Ohio Oil Co.'s No. 46 Bodcaw, 660 ft. N, 660 ft. E, SW cor. SW NW, Sec. 28-21-10 ..... Drlg. brown lime and shale 3,-980 ft.

Palmer Corp.'s No. 3 Miller, 660 ft. N, 660 ft. E, SW cor., Sec. 28-21-10 ..... Rigging up.

Standard Oil Co.'s No. 1-E Bodcaw, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 28-21-10 ..... Cmtd. 6⅝-in. csg. 4,305 ft; drlg. 4,330 ft.

WEBSTER PARISH—SAREPTA AND SHONGALOO

Bateman et als' No. 1 J. E. Womble, Sec. 1-22-11 ..... W.O.S.R.; 1,200 ft. oil; T.D. 2,-712 ft.

Bateman et als' No. 2 Womble, 2,340 ft. S, 1,120 ft. E, NW cor., Sec. 1-22-11 ..... Began drlg. Jan. 3; cmtd. 10-in. 200 ft; drlg. 500 ft.

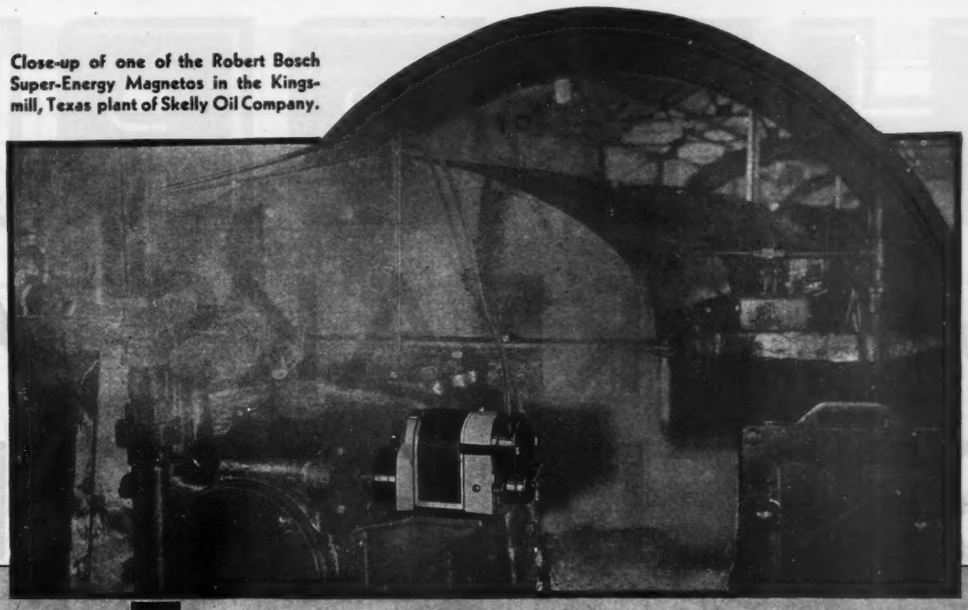
Donohoe O. & G. Co.'s No. 1-B W. B. Roseberry, 250 ft. S, 250 ft. E, C, Sec. 19-23-9 ..... Began drlg. Nov. 25; S.D. 104 ft.

Pat Hudson's No. 2 S. Gardner, 330 ft. N, 300 ft. E, C, Sec. 1-22-11 ..... Drilling.

Pat Hudson's No. 1 B. L. Slack, 330 ft. W, 330 ft. N, SE cor. SW, Sec. 36-23-11 ..... Rigging up.

F. E. Estes' No. 2 Pardee, 1,270 ft. W, 50 ft. S, NE cor. NW, Sec. 2-22-11 ..... 6-in. parted; set 5 3-16-in. 2,643 ft; 2-ft. sand; T.D. 2,650 ft.

(Continued on Next Page)



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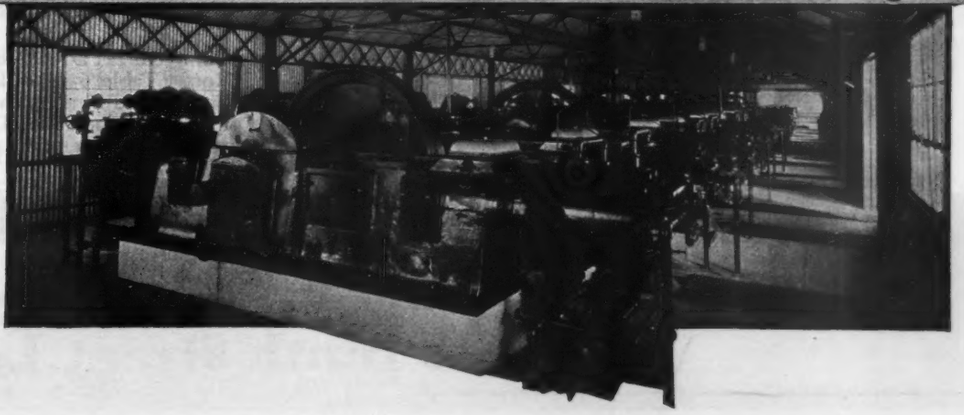


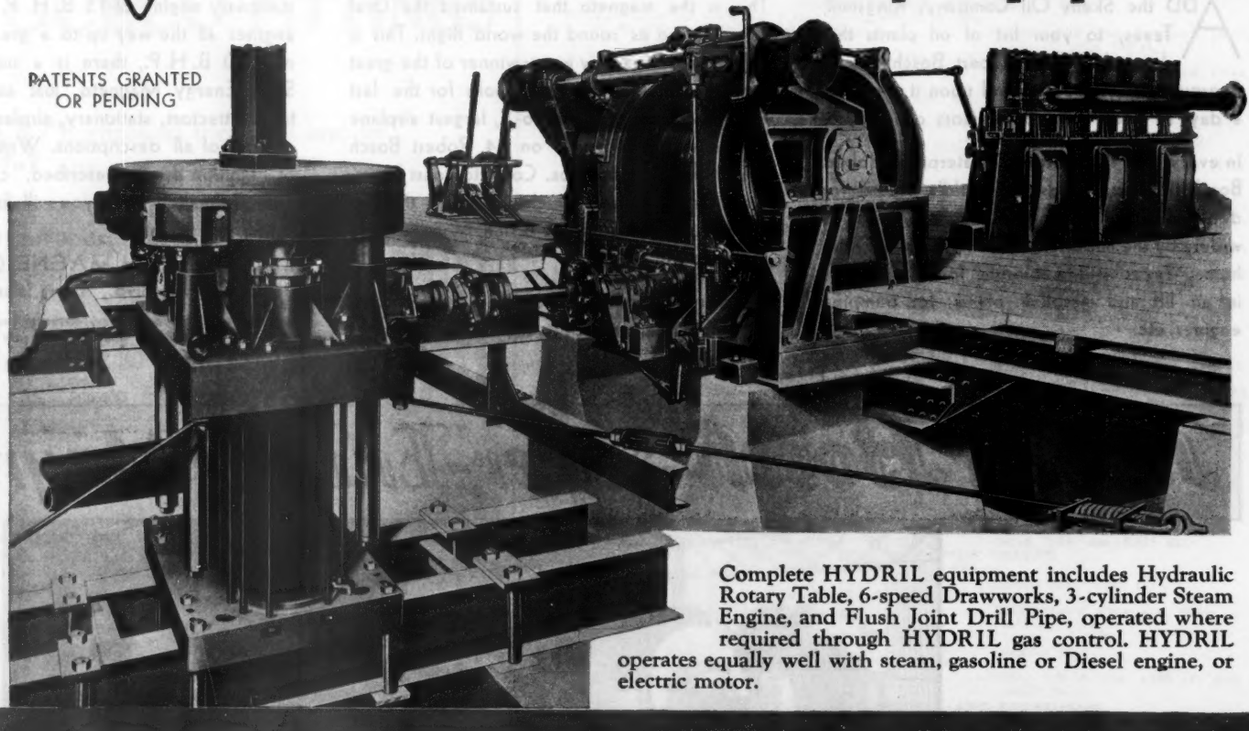
HYDRIL

BREAKS ALL SPEED RECORDS AT KETTLEMAN HILLS

the best-equipped

TRADE MARK REG.
HYDRIL

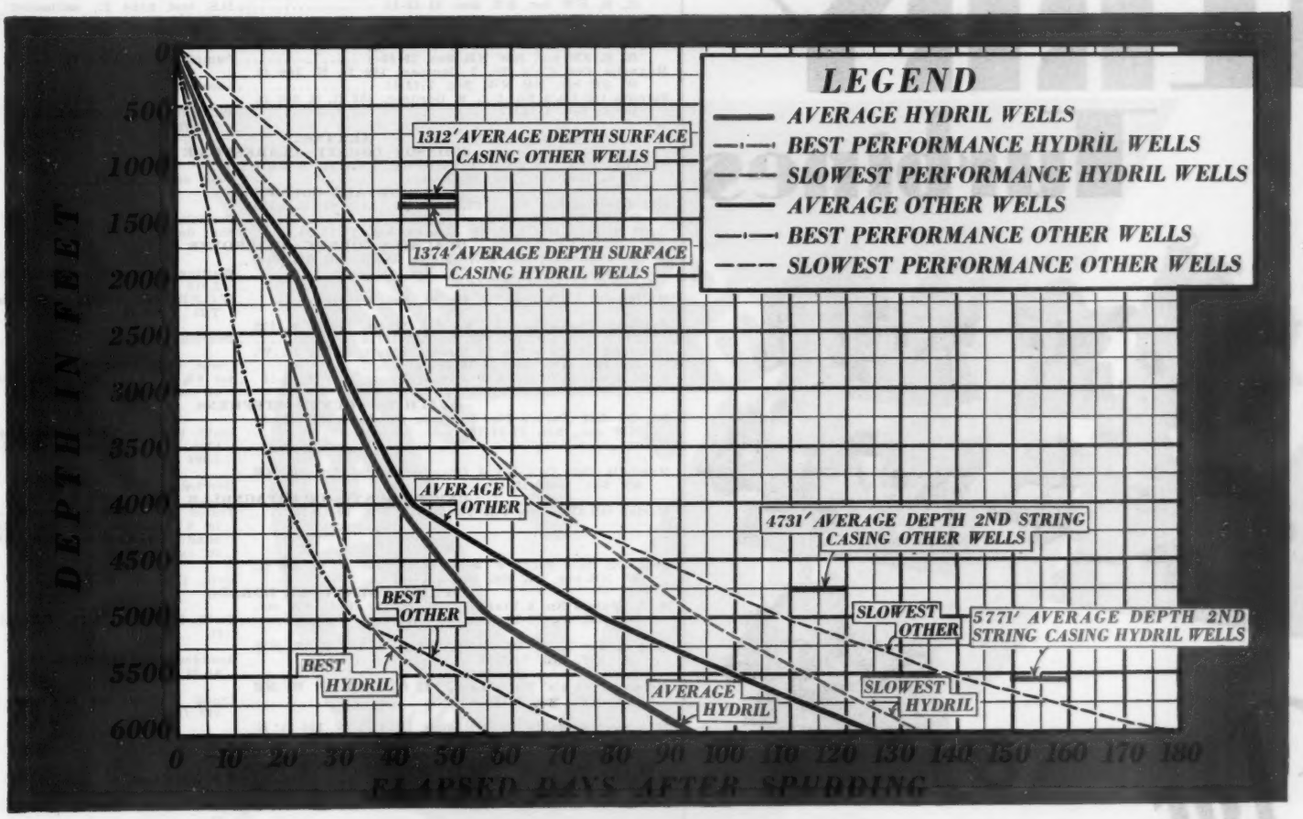
PATENTS GRANTED OR PENDING



Complete HYDRIL equipment includes Hydraulic Rotary Table, 6-speed Drawworks, 3-cylinder Steam Engine, and Flush Joint Drill Pipe, operated where required through HYDRIL gas control. HYDRIL operates equally well with steam, gasoline or Diesel engine, or electric motor.

DOHENY STONE

714 West Tenth Street, Los Angeles


LEGEND
AVERAGE HYDRIL WELLS
BEST PERFORMANCE HYDRIL WELLS
SLOWEST PERFORMANCE HYDRIL WELLS
AVERAGE OTHER WELLS
BEST PERFORMANCE OTHER WELLS
SLOWEST PERFORMANCE OTHER WELLS
1312' AVERAGE DEPTH SURFACE CASING OTHER WELLS
1374' AVERAGE DEPTH SURFACE CASING HYDRIL WELLS
4731' AVERAGE DEPTH 2ND STRING CASING OTHER WELLS
5771' AVERAGE DEPTH 2ND STRING CASING HYDRIL WELLS
AVERAGE OTHER
BEST OTHER
SLOWEST OTHER
BEST HYDRIL
AVERAGE HYDRIL
SLOWEST HYDRIL
DEPTH IN FEET
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
ELAPSED DAYS AFTER SPUDDING

drilling field in the world!

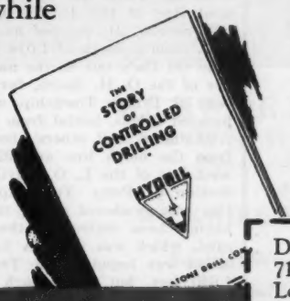
THE five wells at Kettleman Hills equipped with HYDRIL averaged 93.7 days from spudding to 6,000 feet—compared with the average of 126 days required by all the wells drilled with other equipment which have reached the 6,000-foot depth since the discovery well.

An average of 32 days less time to production worth $10,000 per day—32 days less drilling expense at $500 per day!

The *slowest* HYDRIL well required 132 days—only 6 days more than the average for wells drilled with other equipment—while the slowest other well required 177 days. The fastest HYDRIL well reached 6,000 feet in 55 days—18 days faster than the best performance with other equipment.

These figures and chart above are taken from Olsen's scouting service reports, giving the elapsed time for all wells since the discovery well at Kettleman Hills; showing comparison of the five HYDRIL wells and all wells using other drilling equipment.

Kettleman Hills wells are being drilled with rotary equipment of practically all the recognized makes, in most cases the newest and best obtainable. The HYDRIL records established are not "show" records; they represent regular drilling practice under ordinary conditions. In comparison with the highest class of drilling equipment that has ever been assembled in one field, they clearly demonstrate HYDRIL superiority!



HYDRIL and its operation are described in the 24-page, illustrated *"Story of Controlled Drilling."* Request your copy—coupon below.

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For Pump Drive

The five 80 HP Terry Turbine pump drives shown above have recently been installed by a Mid-Continent refiner. They operate with steam at 150 lbs. and exhaust against 10 lbs. back pressure.

These turbines are typical of the many hundreds of Terrys that are now serving the oil industry. The one-piece steel turbine rotor makes for high dependability and long life.

Built in all sizes from 5 HP to 1500 HP for any commercial steam pressure and back pressure. A Terry engineer will be glad to aid you in selecting the proper type for your requirements.

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T-1044-R

Magnolia Pet. Co.'s No. 1 J. P. Baker, 1,120 ft. S, 225 ft. E, NW cor. SW, Sec. 35-22-11 ..... D.S. test 3,054 ft; estimated 7,000,000 ft. gas and spray of oil; drlg. gummy shale 3,108 ft.

Magnolia Pet. Co.'s No. 1 C. O. Bailey, 100 ft. N, 660 ft. E, SW cor. NW NE, Sec. 29-23-9 ..... Pumping S.W. 2,758 ft.

Magnolia Pet. Co.'s No. 2 Denman, 100 ft. N, 160 ft. W, SE cor. NE NW, Sec. 1-22-11 ..... Location.

Sarepta Oil Co.'s No. 1 L. S. Gardner, 300 ft. S, 300 ft. W, C, Sec. 1-22-11 ..... W.O.S.R; 600 ft. fluid; T.D. 2,719 ft.

ARKANSAS

JOHNSON COUNTY—CLARKSVILLE

Ark.-La. P. L. Co.'s No. 1 Patterson, 1,020 ft. S, 2,570 ft. E, NW cor., Sec. 14-10-24 ..... Drlg. sand 1,300 ft.

NEVADA COUNTY

Roy Davis et als' No. 1 Chas. Henry, 1,120 ft. N, 1,120 ft. W, SE cor., Sec. 10-12-20 ..... Derrick.

C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... Shut down.

OUACHITA COUNTY—SMACKOVER

L. H. Hamilton's No. 1 Arnold & Doyle, SE SE, Sec. 23-15-16 ..... Waiting on power, to pump; T.D. 2,010 ft.

Marine Oil Co.'s No. 7-A Hayes, Sec. 4-16-15 ..... W.O.S.R; 450 ft. oil; 20-ft. sand; T.D. 2,362 ft.

Southern Producing Co.'s No. 3-A Watts, 700 ft. E, 150 ft. N, SW cor. SE SW, Sec. 27-15-15 ..... Derrick.

Standard Oil Co.'s No. 10 Powell, 200 ft. S, 160 ft. W, NE cor. NW, Sec. 34-15-15 ..... Cmtd. 6-in. 2,006 ft.

J. D. Wingfield's No. 1 Martin, SW cor., Sec. 26-15-15 .. Set 6⅝-in. 2,085 ft; tested little oil and S.W; W.O; T.D. 2,115 ft.

OUACHITA COUNTY—STEPHENS

La. Oil Ref. Corp.'s No. 1 Green, 330 ft. S, 330 ft. E, NW cor., Sec. 22-15-19 ..... Cmtd. back to 2,240 ft; prod. 500 bbls. S.W and some oil; T.D. 2,494 ft.

Magnolia Pet. Co's No. 1 Grayson, center Lot 30, NE SE Sec. 21-15-19 ..... Derrick.

UNION COUNTY—CHAMPAGNOLLE

Marine Oil Co.'s No. 3-A Thompson, Sec. 10-18-13 ..... Tested 16 fourbles 21.7 gravity oil in 6 min. on D.S. test; 7-ft. sand; T.D. 3,535 ft; setting 8¼-in. csg. 3,522 ft.

Ohio Oil Co.'s No. 1 J. M. Gregory, 330 ft. S, 330 ft. W, NE cor. SW SE, Sec. 1-17-14 ..... Drlg. 1,945 ft.

UNION COUNTY—EL DORADO

H. L. Hunt's No. 6 Pratt, 150 ft. N, 330 ft. E, SW cor. NE NE, Sec. 7-18-15 ..... Cmtd. 8¼ in. 2,150 ft.; T.D. 2,157 ft.

Rice et als' No. 1 W. Ralty, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Spudded July 18; cmtd. 10-in. at 92 ft.

Weisinger et als' No. 1 Lacy, 181 ft. S, 557 ft. W, NE cor. NW, Sec. 6-18-15 ..... Cmtd. 12½-in. 148 ft; drlg. 1,380 ft.

Weisinger & Ball's No. 1 Rogers, 1,014 ft. N, 150 ft. E, SW cor. E½ SW SE, Sec. 31-17-15 ..... Derrick.

UNION COUNTY—SMACKOVER

Lion Oil Ref. Co.'s No. 1 James, CWL, Lot 2, NW, Sec. 6-16-15 ..... T.A. 2,018 feet.

Root Refineries, Inc.'s No. 8 Calloway, 510 ft. S, 150 ft. W, NE cor., Sec. 4-16-15 ..... Cmtd. 4½ in. 2,248 ft.; T.D. 2,287 ft.

Skelly Oil Co.'s No. 8-A Alphin, 1,320 ft. S, C, Sec. 24-16-16 ..... W.O.S.R. 2,116 ft.

EAST TEXAS

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 9 Werner, 1,750 ft. S, 1,052 ft. W, NE cor. E. F. Mitcheson Sur. ..... Began drlg. Dec. 14; cmtd. 10 in. 40 ft.; tested dry 1,020 ft.; argn. to deepen.

Ark.-La. P. L. Co.'s No. 11 Werner, 1,850 ft. S, 1,052 ft. W, NE cor. E. F. Mitcheson Sur. ..... Location.

Calatex O. & G. Co.'s No. 3 Caldwell, 243 ft. S, 1,034 ft. W, SE cor. John Womack Sur. in Jas. Shadoin Sur. ..... Began drlg. Dec. 28; cmtd. 10-in. 42 ft; D.S. test 1,067 ft; S.W. and show of gas; S.D; W.O; Nos. 1 and 2 drilled by M. A. Smith et als.

S. H. Gardner's No. 5 Brumble, 5,966 ft. E, 4,132 ft. S, NW cor. B. C. Jordan Sur. ..... Cmtd. 6 in. 2,225 ft. (C. D.)

S. H. Gardner's No. 4 Rocquemore, 5,176 ft. E, 4,432 ft. S, NW cor. B. C. Jordan Sur. ..... Rigging up.

Magnolia Pet. Co.'s No. 1 D. W. Scott, 640 ft. N, 660 ft. E, SW cor. Scott tract in S. Lawless Sur. ..... Coring shale 3,543 ft.

Magnolia Pet. Co.'s No. 6 G. C. Tiller, 393 ft. S, 1,990 ft. E, NW cor. Jane Thorpe Sur. ..... Cmtd. 15½-in. 211 ft; drlg. chalk 1,509 ft.

Nat. Gas Prod. Co.'s No. 8 Roquemore, B. C. Jordan Sur... Drlg. brown lime and shale 2,800 ft.

Nemours Corp.'s No. 4 Brumble, 200 ft. N, 200 ft. W, SE cor. E. F. Mitcheson Survey ..... Cmtd. 10-in. 61 ft; drlg. 1,400 ft.

D. Thompson's No. 4 Tiller, Jas. Story Sur. ..... Drlg. lime 2,400 ft.

CENTRAL WEST FIELDS

(Continued from Page 78)

from the north line and 200 from the west line of the J. F. Huggins farm, SW Section 21, pumped an initial of 8 bbls. from a depth of 1,010 feet. Porterville Oil Co.'s test in the northwest corner of the O, H. Smith, farm SW, Section 36, Prairie Township, same county, pumped 6 bbls. initial from 970 feet.

Skidmore and others' test, 300 feet from the north line and 925 from the west line of the L. O. Havill farm, SE, Section 6, Petty Township, Lawrence Co., was numbered among the dry holes having been drilled to the McCloskey sand, which was dry. A light showing of oil was found in the Tracy sand at 1,640 feet, but not enough to make a commercial producer.

In St. Clair County, Sugar Loaf Township, the M. & M. Operating Co.'s No. 3 on the Fred Metler farm, SE, Section 34, pumped an initial of 30 bbls. from 728 to 788 feet. House and others' No. 1 Fred Metler, NE, Section 34, was dry from 750 to 780 feet.

Missouri Wildcat

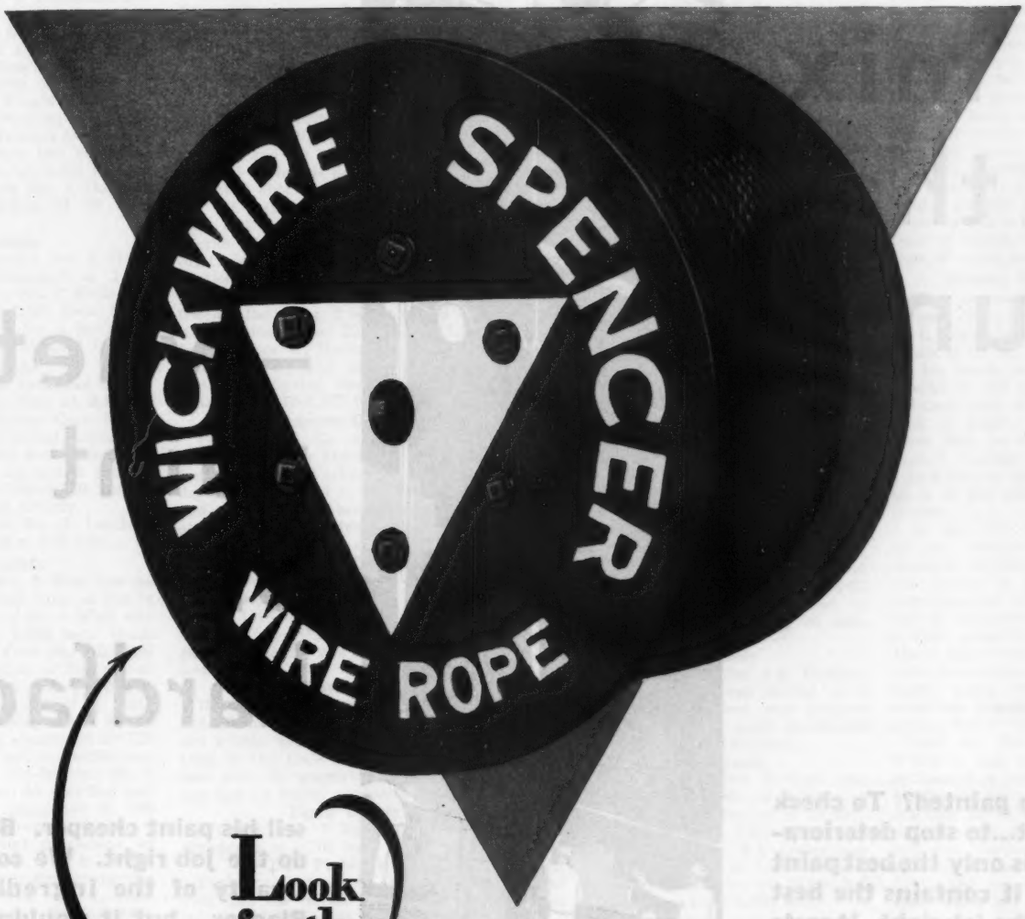
Hoffman Brothers Construction Co. attempted to find oil on their land in St. Louis, Mo., but the venture was given up as a dry hole from 633 to 700 feet in depth.

HENRY M. ERNST DEAD

OIL CITY, Pa., Jan. 11.—Henry M. Ernst, president of the Dempseytown Gas Co. and the oldest oil man in this part of Venango County died Sunday, January 5, at the age of 88 years.

Mr. Ernst started operating for oil in the early 70's. He was a partner of the late Theodore N. Barnsdall in natural gas operations, in the Venango and other Middle Field counties and with Henry Bradley operated in the Bolivar-Richburg district and with P. T. Kennedy and Carl H. Foster operated in the Bradford field. He moved to Lima, Ohio, in the middle 80's and operated with J. C. Lineman, becoming president of the Ohio Oil Co. previous to its sale to the Standard Oil Co. Mr. Ernst became interested in the Texas fields and at one time was managing vice president of the Houston Oil Co. With the Standard Oil Co. as a partner he operated in the Illinois and Kentucky fields.

Mr. Ernst came to Oil City in 1900 and resided here until his death. The funeral was held Tuesday, January 6.



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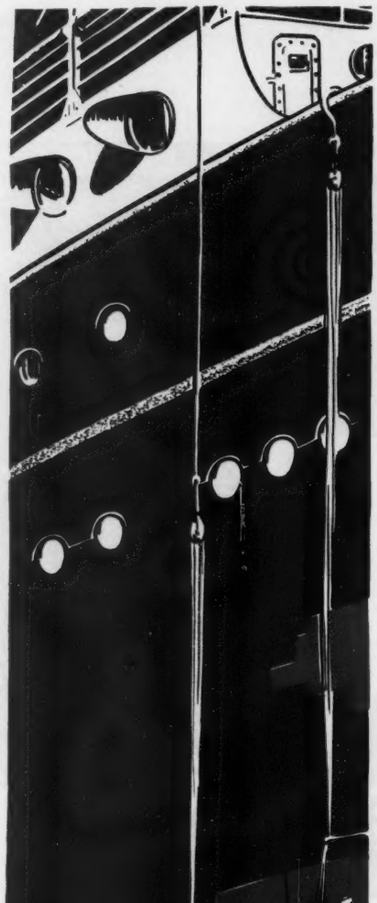
it's the mix that counts



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BLACKOR

The Super Abrasion-Resistant Facing

PANHANDLE FIELDS

(Continued from Page 66)

WICHITA FALLS COMPLETIONS
Week ending January 11

Archer County

Burns & Long's No. 9 Turbeville had an initial production of 91 bbls. at 1,475-81 feet. Apple & Brandeberry's No. 6 Meade was dry and abandoned at 1,455 feet. F. P. Cullum's No. 4 Falls had an initial production of 70 bbls. at 1,111-17 feet. Wayne King's No. 1 Portwood had an initial production of 15 bbls. at 1,428-33 feet. Lawson-Duke and others' No. 3 Richardson had an initial production of 40 bbls. at 1,407-16 feet. Shell Petroleum Corp.'s No. 1 Dupriest had an initial production of 46 bbls. at 1,426-35 feet.

Cooke County

Danciger & Staniforth's No. 1 Ramsey was dry and abandoned at 1,518 feet. Fain & McGaha's No. 2 Wells was dry and abandoned at 1,327 feet. Seitz, Comegys & Seitz, Inc.'s No. 1 McCollom was dry and abandoned at 2,001 feet.

Jack County

L. C. Harper's No. 3 Ezell had an initial production of 150 bbls. at 3,180-97 feet. Panhandle Refining Co.'s No. 3 Eaton-Daniels had an initial production of 385 bbls. at 3,105-12 feet. Shaw Oil Co.'s No. 4 Box had an initial production of 50 bbls. oil at 3,098-3,116 feet.

Throckmorton County

Combest and others' No. 1 Leathers was dry and abandoned at 612 feet.

Young County

Bolin & Lindsey's No. 6 Wolf had an initial production of 166 bbls. at 854-74 feet. Bridwell Oil Co.'s No. 1 Wolf was dry and abandoned at 1,003 feet. Goldsmith & King Royalty Co.'s No. 8 Kunkel had an initial production of 50 bbls. at 1,137-61 feet. Jones & Sharp's No. 1 Smith was dry and abandoned at 1,317 feet. Panhandle Refining Co.'s No. 5 Prideaux was dry and abandoned at 728 feet; No. 6 Prideaux had an initial production of 11 bbls. at 724-30 feet; No. 7 was dry and abandoned at 800 feet and No. 8 was dry and abandoned at 748 feet. Petroleum Producers Co.'s No. 9 Henning had an initial production of 18 bbls. at 1,094-97 feet. E. R. Riggs' No. 2 Keeler had an initial production of 40 bbls. at 864-83 feet. W. A. Scarborough's No. 1 Sewell was dry and abandoned at 1,349 feet. Stump & Heydricks' No. 1 Carpenter had an initial production of 7 bbls. at 870-886 feet. Their No. 1 Daniels made 60 bbls. at 857-75 feet. Sun Oil Co.'s No. 19 Deitrich had an initial production of 30 bbls. at 1,142-61½ feet. D. L. Wolf's No. 1 Tucker was dry and abandoned at 1,030 feet.

Wilbarger County

L. G. Bradstreet's No. 5 Waggoner had an initial production of 220 bbls. at 2,516-34 feet. Empire Gas & Fuel Co.'s No. 21 Waggoner had an initial production of 115 bbls. at 2,287-2,319 feet. Fain & McGaha's No. 17 Waggoner had an initial production of 112 bbls. at 2,282-2,317 feet. Hi-land Oil Co.'s No. 3 George had an initial production of 250 bbls. on pump at 2,190-2,208 feet. Lewis Production Co.'s No. 9 Waggoner had an initial production of 40 bbls. at 2,428-40 feet. Staley-Wynne & Co.'s No. 8 Waggoner had an initial production of 150 bbls. at 1,888-95 feet. No. 17 Waggoner had an initial production of 100 bbls. at 2,403-10 feet; No. 18 Waggoner had an initial production of 96 bbls. at 1,869-82 feet; and No. 4 Waggoner had an initial production of 60 bbls. at 1,874-81 feet. The Texas Company's No. 5 Waggoner had an initial production of 60 bbls. at 2,373-86 feet. Waggoner Refining Co.'s No. 6 Waggoner had an initial production of 300 bbls. at 2,655-65 feet.

Wichita County

Humble Oil & Refining Co.'s No. 27 Schultz had an initial production of 30 bbls. at 1,684-88 feet. Arkansas Gas & Fuel Co.'s No. 37 Kemp & Kempner had an initial production of 103 bbls. at 1,763-75 feet. Continental Oil Co. and Hammond's No. 3 Munger had an initial production of 97 bbls. at 1,756-60 feet. Humble Oil & Refining Co.'s No. 19 Taylor had an initial production of 125 bbls. at 1,759-69 feet. T. F. Hunter's No. 2 Waggoner was dry and abandoned at 1,552 feet. Sheldon & Venmex' No. 1 Moeller had an initial production of 5 bbls. at 1,929-30 feet. Their No. 2 Robinson had an initial production of 40 bbls. oil at 1,917-32 feet. The Texas Company's No. 13 Waggoner had an initial production of 13 bbls. oil at 1,388-1,407 feet. Venmex Oil Co.'s No. 23 Waggoner was dry and abandoned at 1,860 feet.

RANGER DISTRICT COMPLETIONS
Week Ending January 11

Brown County

Anderson's No. 3 Trammel was shot with 10 and 20 quarts at 1,370-92 feet and had an initial production of 12 bbls. oil and 8 bbls. water. Anna B. Gordon's No. 6-A Cannon was shot with 5 quarts from 1,219-25 feet and had an initial production of 8 bbls. Humble Oil & Refining Co.'s No. 2 Carter had an initial production of 5 bbls. at 1,294-1,300 feet and was drilled to a total depth of 1,395 feet. Owens, Inc.'s No. 8 Cannon had an initial production of 25 bbls. at 1,171-82 feet. George W. McClung's No. 2 Spivey heirs was dry and abandoned at 1,810 feet after having been shot with 205 quarts at 1,375-1,575 feet.

Coleman County

Permian Oil Co. and others' No. 6 Crowder was dry and abandoned at 2,072 feet. Sawyer and others' No. 1 Moss was dry and abandoned at 250 feet. Gwinnup and others' No. 1 Abernathy was dry and abandoned at 2,225 feet.

Callahan County

Humble Oil & Refining Co.'s No. 1 Jackson was drilled to a total depth of 1,230 feet, plugged back to 795 feet and had an initial production of 200,000 feet of gas. Union Oil Co. of Nevada's No. 1 Jackson was dry and abandoned at 1,174 feet.

Eastland County

Republic Production Co.'s No. 5 Sneed had an initial production of 5 bbls. oil and 2 bbls. water at 1,220-28 feet. T. P. Coal & Oil Co.'s No. 3 Duracher was shot with 40 quarts from 3,008-18 feet and had an initial production of 30 bbls.

Erath County

Wickens' No. 1 Bandy was dry and abandoned at 3,760 feet.

Palo Pinto County

Prairie and Amerada Oil Co.'s No. 1 Vick had an initial production of 124 bbls. at 1,550-56 feet. T. P. Coal & Oil Co.'s No. 164 Stuart & Son had an initial production of 70 bbls. at 1,598-1,613 feet.

Stephens County

The Texas Company's No. 21 Black had an initial production of 15 bbls. oil and 1,500,000 feet of gas from 3,197-3,248 feet.

Shackelford County

Carter Development Co.'s No. 2-52 Nail was dry and abandoned at 1,231 feet. Cranfill & Reynolds' No. 2 Matthews was junked at 1,203 feet. Dyess Hatcher and others' No. 1 Nixon was dry and abandoned at 705 feet. Gibson & Johnson's No. 1 Newcomb was dry and abandoned at 2,006 feet. Humble Oil & Refining Co.'s No. 20 Cook had an initial production of 55 bbls. at 1,381-91 feet. Johnson, Holland and others' No. 1 Crabtree was dry and abandoned at 592 feet. C. Morton's No. 1 Green was dry and abandoned at 588 feet. The Texas Company's No. 1 Cutbirth was dry and abandoned at 1,733 feet. Vacuum Oil Co.'s No. 13 Matthews had an initial production of 35 bbls. at 1,088-1,107 feet.

PANHANDLE COMPLETIONS
Week ending January 11

Carson County

Continental Oil Co.'s No. 2, located in Section 111, Block 4, I.&G.N. Survey, was shot with 320 quarts from 3,010-3,100 feet and had an initial production of 325 bbls. Empire Gas & Fuel Co.'s No. 22 Burnett was drilled to a total depth of 2,699 feet, topped the pay at 2,430-2,699 feet, and had an initial production of 32,000,000 feet of gas. Phillips Petroleum Corp.'s No. 1 Garner was junked and abandoned at 2,940 feet.

Gray County

Stogner & Meadows' No. 1 Taylor, located Section 7, Block H, A. H. Wallace Survey, topped the pay at 2,994-3,030 feet, was shot with 60 quarts from 2,990-3,032 feet and was dry and abandoned. The Texas Company's No. 17 Saunders, located in Section 4, Block 1, A.C.H.&B. Survey, was drilled to a total depth of 2,524 feet, topped the pay at 2,495-2,505 feet and had an initial production of 1,057 bbls. oil, 10 per cent water and 3,000,000 feet of gas. The Texas Company's No. 19 Saunders was drilled to a total depth of 2,584 feet, had a gas show at 2,575 feet, was shot with 180 quarts from 2,510-84 feet and swabbed 72 bbls. the first 24 hours. Danciger and Champlin's No. 3 Cook-Faulkner was drilled to a total depth of 2,826 feet, topped the pay at 2,700-05 feet and at 2,822-26 feet, had an initial production first 16 hours of 1,600 bbls. oil and 15,000,000 feet of gas.

Hutchinson County

Holmes & Nublock's No. 1 Moore was shot with 210 quarts at 3,000-3,100 feet and had an initial production of 150 bbls. Midwest Exploration Co.'s No. 3 Moore, Section 125, Block 4, I.&G.N.R.R. Survey, was shot with 240 quarts from 3,020-84 feet and had an initial production of 140 bbls. Oates & Jones' No. 1 Jasper, Section 33, Block M-23, T.C.R.R. Survey, was drilled to a total depth of 3,148 feet, was shot with 180 quarts from 3,110-48 feet and had an initial production of 40 bbls. Penny's No. 2 Johnson Brothers, Section 35, Block Y, was drilled to a total depth of 3,060 feet, was shot with 40 quarts from 3,040-60 feet and is now flowing 10 bbls. daily with from 5,000,000 to 10,000,000 feet of gas. Travellers Oil Co.'s No. 2 Cockrell was drilled to a total depth of 3,039 feet, was shot with 120 quarts from 3,010-39 feet and shot again with 30 quarts from 2,978-83 feet and had an initial production of 140 bbls. and is now swabbing 90 bbls. daily.

Moore County

Amarillo Oil Co.'s No. 1-A Perkins, Section 76, Block 3, was drilled to a total depth of 3,515 feet, was plugged back to 3,087 feet and made 38,000,000 feet of gas from 2,830-2,925 feet.

Wheeler County

Holmes and others' No. 2 Close was drilled to a total depth of 1,375 feet and had an initial production of 60,000,000 feet of gas from 1,289-1,375 feet. Vaughn and others' No. 3-A Ackley was drilled to a total depth of 1,880 feet and had an initial production of 28,000,000 feet of gas from 1,750-1,880 feet.

MR. MEALS DECIDED TO FOREGO HIS "M.D."

(Continued from Page 39)

to take the position of superintendent of the company's West Virginia properties. Mr. Meals accepted.

In 1896 Mr. Meals married Miss Maude Malone, of Cameron, W. Va., and they had been living in Waynesburg, Pa., since their marriage. They now moved to Moundsville, W. Va. In 1917 Mr. Meals was made general superintendent of the company and he moved to Pittsburgh, where the head offices were. A year later he became vice president and general manager. In 1922 Mr. Meals was made president, which office he still holds. He has two daughters, both graduates of the University of Pittsburgh.

Leader in Natural Gas Industry

Thorough training in the field, followed by steady rise through positions of increasing responsibility, along with an unusual faculty for imparting what he knows to others (maybe the early days as a school teacher have something to do with that) has made Samuel W. Meals sought for counsel, guidance and for leadership in carrying on organized work in the natural gas industry. In 1926 he served as president of the Western Pennsylvania Gas Men's Association. At the meeting of the Natural Gas Department of the American Gas Association in Dallas, Tex., in 1928 he was chosen chairman. Prior to that for several years he had been a director of the department's predecessor, the Natural Gas Association of America.

Mr. Meals often is referred to as the "strongest man in the natural gas industry." His attainments in the technical, commercial and educational phases of the business might easily prompt the supposition that the designation grew out of these. The fact is, however, that the man's sheer muscular strength led to the characterization.

Mr. Meal's ruddy complexion, alert eyes and active movements give the observer the impression of glowing health and promise of long life, but without knowing more about him few would be likely to pick out the president of the Carnegie Natural Gas Co. as a particularly good bet in a contest of brawn and agility. But he is full of surprises. He weighs 155 pounds, is 5 feet 7½ inches tall, and looks rather less than that because of stocky build. In his younger days Mr. Meals took an active part in athletics, especially boxing, wrestling, the horizontal bar and other gymnastic sports. He has not allowed the passing years to rob him of his vigor, and his feats of muscle and nimbleness are subjects of many stories told by his friends.

Shucks, What's 60 Years?

More especially for those who have become obese, flabby and asthmatic at 40 it might be mentioned here that Mr. Meals at 60 can stand on his head, walk on his hands or whirl a fellow citizen around in the atmosphere much as the ordinary man would handle a 25-pound sack of sugar. Although he loves fun more than he does dignity, Mr. Meals doesn't indulge in acrobatics before others save on infrequent occasions when he is in the company of long-time intimates.

At the time of the 1927 convention of the Natural Gas Association of America in Cincinnati, Ohio, Mr. Meals and James H. Dye, of Tulsa, resident vice president of the International Derrick & Equipment Co., were members of a little group in a room of the Gibson Hotel. Like exuberant boys the two men, their convention work over for the day, began going through the motions of wrestlers. Somebody cried, "Give him the aerial, Sam!"

Now Mr. Dye weighs 190 pounds, is 5 feet 8, and knows how to take care of himself in emergencies, but the words hardly had been uttered when Mr. Meals, catching the other with a hold known to wrestlers, lifted him off his feet, swung him over his head and landed him right side up on the floor.

Mr. Dye recounts with delight another time when he and his old-time friend met in the Deshler Hotel in Columbus, Ohio. Mr. Meals, perhaps just to show how glad he was to see the other, grasped him just under the arms, swung his outstretched body with a circular movement like that described by a blade of a windmill and then deposited him on his feet again. At one instant in his flight Mr. Dye was in a vertical position, head downward, with his toes brushing the ceiling.

YEARS 1930 AND 1920 IN PETROLEUM REFINING

(Continued from Page 38)

of this demand came the discovery that the product obtained by vapor phase cracking was an extremely good antiknock fuel.

Consequently the cracking process of today is a hybrid—part vapor phase and part liquid phase. True, most cracked gasoline is still produced by liquid phase processes, but it is increasingly apparent that the vapor phase process is here to stay. The objectionable feature of vapor phase work which once seemed unsurmountable was the staggering rapidity with which carbon formation occurred as a side reaction to the desired cracking reactions. At least two ingenious methods for circumventing this difficulty have been worked out. Vapor phase cracking will probably never be as cheap a process as liquid phase cracking. The present trend on the part of some refiners seems to be toward production of a blended fuel containing sufficient vapor phase gasoline to increase the antiknock properties to the desired degree, blended with the liquid phase material.

The present day liquid phase still operates not over a cycle measured in hours but in cycles of many days or even months. The solution of the carbon problem has been found in maintaining a

high velocity through the portions of the cracking still set in the fire box, thus preventing deposition of carbon in that portion of the still, coupled with the use of proper equipment for caring for the carbon deposited in the portions of the still not set in the fire box.

Since the present day liquid phase process is essentially continuous, it is but natural that highly efficient heat exchange equipment is incorporated in its construction. Also the present day cracking still is put up to stay put. No down time is charged to reconstruction of the unit several times a year.

As a result of this permanence of construction, a problem has arisen during the past decade which threatened the life of the new style still. Corrosion was not a problem when mechanical failure was invariably the reason for replacing a still. But with the advent of the present day liquid phase still corrosion became very much a problem. It was found that in the course of a few years corrosion would ravage cracking equipment so that it could no longer be operated safely. Such corrosion has been successfully averted by chemical means.

Catalytic liquid phase cracking is now being carried on commercially in at least one instance, after many years of painstaking effort on the part of the inventor and his co-workers. The processing of petroleum fractions by treatment with chemical reagents and absorbents has undergone many changes in the past 10 years, more in methods of application than in introduction of new materials.

Treating Methods

In 1920 most treatments with chemical reagents was being carried on by batch treatment in agitators. The agitators were open so that great evaporation losses during treatment of motor fuel and naphthas were free to occur. The agitators frequently flashed during treatment so that considerable fire hazard was existent. The agitators were not engaged in actual treating work during the entire working day since considerable time had to be allowed for filling and draining. Some refiners had begun to employ continuous treating equipment, but they were in the minority.

The chemical reagents used were sodium plumbite (doctor), sulphuric acid and sodium hydroxide. Of these most large refiners were recovering only sulphuric acid from their spent reagents. The evaporation of the recovered acid was carried out in open evaporators. As a result the territory surrounding the evaporators was subject to steady contact with sulphur dioxide and sulphuric acid spray, with resulting deleterious effects on both workers and property.

Adsorbent clays were employed in percolation processes as coarse granules through which the oil was allowed to trickle. When the clay was spent it was revivified by burning with little regard to the temperature at which the burning was accomplished as long as the resulting product had in part at least recovered some measure of its former decolorizing properties.

The 1930 aspect of treating is vastly different. Inflammable oils having a high vapor tension at the treating temperature are now treated continuously in closed equipment in most well operated plants. The treatment of this type of oils in open agitators is rapidly becoming obsolete.

In addition to the chemical reagents enumerated above, sodium and calcium hypochlorites are receiving some attention as sweetening media. Liquid sulphur dioxide is being used somewhat as a selective solvent for high sulphur compounds. Adsorbent clays are being employed essentially as catalysts in connection with cracking equipment, effecting the polymerization and removal of gum-forming constitutents from cracking still vapors before condensation.

Acid Concentrators

A definite trend towards housing in of open acid concentrators is now under way, though most refiners are still polluting the atmosphere with the highly undesirable by-products of this work. It is interesting to note that the increased acid recovery resulting from employment of closed concentrators is said to pay for the cost involved in enclosing the concentrators. Some refiners are now recovering and rejuvenating spent sodium plumbite.

The up-to-date treatment with adsorbent clay involves the use of pulverant rather than granular clay. The clay is agitated with the oil instead of allowing the oil to percolate through the clay. After agitation the clay is removed by filter-pressing. In this manner the effectiveness of a given weight clay is greatly increased due to the greater surface offered by the pulverized material as contrasted with the granular material.

The spent clay is burned in furnaces carefully controlled to operate at the optimum burning temperature so that the adsorbed impurities are completely removed at such a temperature that the adsorbent properties of the clay are only slightly impaired. During the past decade considerable attention has been paid to improvement in the quality of adsorbent clays employed. Some improvement in efficiency over that of the old standby, Florida fuller's earth, has been achieved, but the cost of the improved materials in many cases makes them incapable of competing commercially with Florida earth in many parts of the country.

Dewaxing Lubricants

The decade has witnessed two major changes in the processes of dewaxing lubricant fractions — the introduction of centrifugal separation on a large scale for dewaxing of residual fractions, and improved methods of preparation of distillate fractions preliminary to filter-pressing.

The use of the centrifuge makes possible a sharper separation of petroleum from residual lubricating fractions than hitherto has been possible. Further, advantage may be taken of the inhibitory action of petroleum on the crystallization of paraffin to make possible dewaxing of a residual fraction cut to contain all the lubricating constitutents of the crude oil by a single centrifugal operation. The rapid adoption of this method during the past few years attests to the popularity of the centrifugal process.

A fallacy for many years existent in the refining industry was the belief that lubricating distillates of necessity must be mildly cracked prior to filter-pressing if wax crystals of sufficient size to be readily filterable are to be obtained. In such a cracking distillation the viscosity of the lubricating stock is markedly decreased, while the percentage of treating loss resulting on treatment of such a distillate with sulphuric acid is greater than for the corresponding undistilled material.

It has been repeatedly shown that if medium-boiling wax-oil mixtures are free of traces of high boiling material, crystallization readily proceeds. If a wax distillate is properly prepared, employing well controlled fractionated equipment in this work, a distillate results from which paraffin crystallizes readily.

With this knowledge, during the past decade many refiners have ceased to subject wax distillate to an unnecessary cracking distillation, resorting rather to rigorously controlled fractionating columns as standard equipment on stills producing the distillate. While some refiners are still cracking wax distillate, they are members of a rapidly diminishing minority.

Special Products

The public debt to compounded petroleum base products is seldom realized even by members of the petroleum fraternity. While no startling contributions have been made to this field during the past 10 years, the number of commercial products reared upon a petroleum foundation has been steadily increased during the period.

Examples of a few such products which have come into commercial prominence during the decade are oil base insecticides, both spray and emulsion types, rayon oils (emulsions), asphalt emulsions, improved cutting oils, many new grease formulae and many new medicines. No one of these products may appear of extreme necessity to contemporary living, but if they were collectively made unavailable, causing us to revert to the compounded materials developed only up to 1920, a profound wail would arise from farm, fireside and factory.

The summary of changes made during the past 10 years is necessarily not encyclopaedic. It is unfortunately without the scope of this discussion to describe all the improvements made in the science of refining during the period. A wide variety of minor improvements and changes have been made besides those mentioned.

It is evident that the petroleum refining industry has made the past 10 years a period of great accomplishment. It has been exceedingly active in improving its engineering and scientific status. The art of refining has largely given way to the science of refining.

But the industry is by no means through. Processes today believed to represent the acme of engineering triumphs undoubtedly are susceptible to even further improvements. Those processes admittedly not the most economical should go by the boards in favor of new and better methods, many of which will continue to be developed.

Here's to a busy 10 years. May 1930-40 far outstrip 1920-30 as a period of accomplishment in the petroleum refining industry.

ANALYSIS MADE OF REFINERY MARGINS

(Continued from Page 37)

latter expenses are contingent to a large degree upon the amount of the investment in the plant. In this case, it was assumed that $1,650,000 would be the minimum investment for a new, modern plant, capable of producing the results assumed above. This investment includes all equipment at the plant and sufficient tank cars to move the products into the normal Group 3 marketing territory. A detailed list of the investment items may be seen in tabular form here.

Cracking Operations

In the second case, it was assumed that sufficient cracking capacity was added to handle all of that fraction of the crude below kerosene. It was further assumed that the operations be carried out to produce a maximum volume of gasoline, since that appears to be the most profitable operation while fuel oil prices are at their present low level.

Here a yield of 72 per cent U. S. Motor gasoline is shown along with normal yields on the balance of the products. The same prices were used in making this realization as were used in the first case, except a price for coke was added.

In this realization there is a resultant plant margin of 14 cents after paying the same delivered price for the crude and after paying a bare manufacturing expense of 32 cents per barrel. The increase in revenue is due to the profitable cracking operations and the increase in the manufacturing expense is also due to the effect of the cracking operations.

This margin, however, is more than absorbed by the sales, traffic, overhead and indirect charges as may be seen in realization No. 2, leaving a net loss of 16 cents per barrel.

Incidentally, the plant loss is reduced from $766,500 per year to $292,000 per year, after adding an investment of $600,000. The return on the investment in cracking equipment is shown as almost 80 per cent. The detailed plant investment of $2,250,000 is included in the tabulation shown here and includes practically the same individual items that were included in the case of the skimming plant with the exception that some items were increased as a result of the cracking plant such as the larger power plant needed, more tankage, etc., making the total investment in the cracking unit and the auxiliary plant equipment $600,000 higher.

Complete Plant

Under the heading "complete plant" is simply included the estimated earnings of a refinery equipped to make lubricating oils and maximum bright stock and with sufficient cracking capacity to handle all remaining stock. Because of the lesser volume of charging stock available, there is a lesser yield of cracked gasoline and there is a corresponding reduction in the plant yield. Under the new conditions the gasoline yield is reduced to 60 per cent. In addition to the products made under the previous methods of operation, a yield of 1.5 per cent of 280 viscosity lub stock is shown here, 7.0 per cent finished 150 viscosity D bright stock and 10 per cent fuel oil. It should be explained that, although the cracking operations are carried out to make a maximum yield of gasoline, they are modified from the case previously mentioned so as to produce a plant fuel oil of a consistency to be suitable for blending with the acid sludge from the lube operations. This provides for the economic disposal of the sludge and materially lessens the refinery fuel costs.

An arbitrary price of 60 cents per barrel is allowed for this fuel in the realization, although it probably could not be termed marketable. Because of the relatively high processing costs that attend the manufacture of lubricating oils and bright stock, the plant expense in this case is shown to be increased to 98 cents per barrel. The additional monthly expense incurred through the manufacture of 10,500 bbls. of bright stock amounts to approximately $90,000 and the additional expenses for the manufacture of lubricating oils, $8,500. These appear high, but are accounted for by the fact a maximum yield of bright stock has been estimated in this case. The interest, depreciation and other indirect expenses are shown as a total as amounting to 27 cents per barrel. This is the highest of the three cases, since the plant investment has been increased materially. The investment in the complete plant is shown as $2,950,000 and includes a net increase over the second case of $700,000, all of which may be accounted for in the refrigerating plant, filters, distilling equipment, centrifuges, etc., which constitute the lube plant.

The favorable showing under this method of operation may be explained by the favorable bright stock market price which has prevailed for many months. The spot price assumed here of 37 cents per gallon when figured with a yield of 7 per cent produces more than one-third of the total gross revenue from all oils.

The plant loss of $18,250 shown here means that the refinery is doing only a little less than breaking even, but as a result of the lube operations the earnings are improved to the extent of $274,000, or the return on the investment of $700,000 in the lube equipment yields a return of nearly 40 per cent.

In the list of charges carried on the bottom of each realization, interest on

INVESTMENT IN PLANTS

	Skimming	Skimming and cracking	Complete to bright stock and lub.
Distilling equipment	$ 200,000	$ 190,000	$ 200,000
Treating	40,000	40,000	40,000
Power plant	105,000	130,000	175,000
Pump house and equipment	40,000	50,000	60,000
Loading rack and tracks	30,000	30,000	35,000
Yard lines	55,000	75,000	75,000
Sewers, roads and fences	20,000	22,000	25,000
Water system	22,000	30,000	35,000
Tankage	220,000	250,000	230,000
Office, laboratory, change house, warehouse, garage, etc.	40,000	42,000	45,000
Tail gas plant	30,000	45,000	45,000
Power, light and telephone lines	8,000	10,000	12,000
Land	15,000	15,000	15,000
Miscellaneous	25,000	25,000	35,000
Tank cars	800,000	800,000	800,000
Cracking equipment	.....	496,000	446,000
Lubricating and bright stock plant complete	.....	.....	677,000
Total	$1,650,000	$2,250,000	$2,950,000

the money invested is shown as figured at 5 per cent. This may appear low in some cases. Taxes have been figured at 1 per cent and insurance at 1 per cent. The matter of depreciation and obsolescence is an important one and it has been arbitrarily assumed that modern cracking equipment will be obsolete and will have depreciated within a 5-year period to justify a charge-off of 20 per cent per year on this portion of the investment. On the balance of the refinery equipment an arbitrary depreciation charge of 8 per cent was assumed. Some of the equipment no doubt will be obsolete within a 5-year period, while the tank cars for instance will have a longer life than 12 years, but an attempt has been made to consider these factors in arriving at the average figure of 8 per cent.

Limit of Accuracy

A few cents difference in the price of certain commodities included in the realizations will materially alter the earnings and it is easily possible that a price structure be obtained which would entirely change the relative earnings of the three types of plants. This is not likely to continue over any great period of time, however. Even a fraction of a cent will materially change the earnings in the case of the gasoline price because of the large portion of the total it represents.

The accuracy of the conclusions drawn here is naturally dependent upon the accuracy of the assumptions made. This is intended to cover a general situation in the Mid-Continent at present and to gain an accurate understanding of any particular case, it is of course necessary to substitute actual conditions as they exist in any one plant and no two analyses will appear the same.

METHOD OF DETERMINING COMPRESSIBILITY OF GAS

(Continued from Page 42)

in the plug of the three-way cock are not included in this volume.)

In order to determine the pressures with a satisfactory degree of accuracy, it is necessary to use a dead-weight piston gauge, J, (Figure 1). This, of course, will require that there be at hand the necessary small weights for reading pressures of 0.1 pound per square inch. The use of the piston gauge makes it necessary to have the trap D between it and the gas cylinder A. This trap is essentially a special manometer about 15 inches high, most of it being built up of suitable small pipe fittings, but the upper 5 or 6 inches of the leg to which A is attached consists of a heavy gauge glass tube, thoroughly annealed, and with each end set into a special pipe coupling with Khotinsky cement. Around the center of the glass tube is an etched line (14). The upper end of the other leg of the trap is provided with two valves, one on either side of the tee to which J is connected. The length of this leg is such that the offset of the tee is slightly below the level of the etched line (14).

Small bore (one-eighth-inch outside diameter) copper tubing is used to connect the trap with A, and enough bends are made in the trap end to guard against putting an excessive strain on the glass. There is a tee in the tube near the cylinder end, and the needle valve, 2, is connected to one arm of this tee. The outlet of this valve is connected to the burette, B, by as short a tube as possible. The capacity of the tubing between valves 1 and 2, and the etched line 14 must be determined to the same absolute accuracy as the other volumes.

The manometer tube, E, is the elongated offset of a tee. The run of the tee forms a part of the line which joins the lower neck of B with the reservoir, C. It is desirable to have the tube E long enough to extend even with or above the top of the atmospheric outlet from the three-way cock, 3.

The scale, F, which is attached to or fastened beside the tube, E, should be about 10 inches long with the zero near the center and the graduations numbered both ways. In the apparatus now being described, this scale is of glass with etched graduations and figures, and the smallest division of the scale is one-twentieth inch.

The reservoir, C, should have a capacity about one-tenth larger than that of B. The relative elevations of B and C should be such that the etched line, 13, on the lower neck of B is level with or higher than the opening into the upper neck of C. This upper neck of C is connected to the valves 4 and 5. Through 4, gas or air under pressure may be admitted to C for forcing the mercury over into B, while 5 is a relief valve.

Adjustments

After the apparatus has been assembled it is necessary to make a few adjustments before it is ready for use. The first is to adjust the quantity of sealing fluid in the trap, D. This is very easy if only oil is to be used in the trap, as it is only necessary to pump in oil from the piston gauge until it stands about one-half inch above the etched line 14. Air bubbles may be released through valve 8. When mercury is used with the oil, this adjustment is not so easy. Mercury is introduced into the trap through the all-steel needle valve, 10 (Figure 2-a). Enough mercury is used to fill the gauge glass side to one-half inch above the etched line, 14, and to extend about 3 inches up the other leg. The rest of the trap and the tube to J is filled with oil. The procedure used to do this is to fill both legs of the trap with mercury to a height of about 3 inches. Then after filling the piston gauge side with oil valve 9 is closed and enough mercury to complete the filling of the gauge glass side is introduced through Valve 10. It is necessary to get out all the air bubbles from the oil in the trap and tubing to J.

The use of mercury in one leg of the trap introduces an unbalanced pressure on the piston gauge. It would be possible to have this column of mercury just balance the weight of the piston; but in the particular apparatus being described a steel disk had been attached to the plunger as a part of an arrangement to keep the plunger from being blown from the oil cylinder, and to balance this added weight on the plunger would have required an undesirably long trap. In such a case as the present one it is necessary to calibrate the combined mercury-oil-piston gauge system, and this is done by applying air or gas under pressure to the mercury side of the trap until the plunger, with all weights removed, begins to rise and the surface of the mercury to fall. When the top of the mercury is in the plane of the etched line, 14, the amount of pressure being applied is read on a mercury manometer temporarily connected ahead of the trap. On account of the effects of friction and viscosity upon the plunger, it is best to have the pressure increasing or decreasing very slowly and to read the auxiliary manometer quickly as the surface of the mercury in the trap creeps past the etched line. The valve used is then the average obtained with falling and rising pressures.

The next adjustment to be made is that of the position of the scale, F, beside the manometer tube, E. To do this the cock 3 and the valve 5 are opened so that both B and C as well as E are open to the atmosphere. Mercury is then poured into the system until C is full and the surface of the mercury in the lower neck of B is exactly in the plane of the etched line, 13. The scale is then moved up or down until its zero is exactly level with the surface of the mercury in E, and is finally fastened in that position. After completing this adjustment, enough mercury is removed from the system so that the surface of the mercury in the lower neck of B will be one-fourth to three-eighths inch below the etched line, 13. This is done so that the mercury may not foul the inner surface of the lower neck of B right at the etched line, by standing there when the apparatus is not in use.

Experimental Procedure

When the foregoing adjustments have been made, the apparatus is ready for use. The cylinder A is charged with the gas to be tested, put in place, and connected to the tube from D and valve 2. The tank in which the apparatus is mounted is filled with water and the water stirred to insure a uniform temperature. To purge the tubing, cock 3 is turned so as to open the line from valve 2 to the atmosphere, as shown by position (a) Figure 3. With valves 2 and 9 closed, valve 1 is cracked so that the pressure within the tubing becomes equal or nearly equal to that in A. After closing valve 1, valve 2 is opened until the excess pressure in the tubing is dissipated and then closed again, and cock 3 is closed by turning it to position (b) of Figure 3. A second purging is not usually necessary. Valve 1 is again cracked so that the pressure within the tubing will slowly build up to the full pressure within A, after which valve 1 is opened a full turn or more. Weights are now placed upon the piston gauge and as valve 9 is opened these are adjusted so that with the plunger floating freely, the top of the fluid in the trap is in the plane of the etched line, 14. The weights on the piston gauge are noted and recorded. Next, the cock 3 is turned so as to open B to the air while closing the tube to valve 2, (position (c) Figure 3) and, with valve 5 closed, valve 4 is cracked so as to admit air or gas under a low pressure (10 to 20 pounds per square inch) into C, thus forcing mercury from C into B. Just as the mercury in B reaches the edge of the three-way cock, valve 4 is closed and cock 3 is turned so as to connect B to the line from valve 2 (position (d) Figure 3). As valve 5 is opened slowly, valve 2 is cracked thus letting gas from A into B as the mercury flows back into C. As the surface of the mercury in B enters the lower neck, valve 2 is nearly closed, and it is closed tight when the surface of the mercury has fallen just below the etched line, 13. Cock 3 is next turned so as to close all entrances (position (e) Figure 3). By closing valve 5 and cracking 4, the surface of the mercury is brought back just to the plane of the etched line, 13, and the pressure of the gas in B is then obtained by reading on F the position of the surface of the mercury in E.

This completes one cycle of operations and we proceed with another by readjusting the weights on the piston gauge to balance the new pressure in A. B is again filled with mercury and the operation continued, as just described. This cycle of operation is repeated until the gauge pressure of the gas in A has been reduced to zero or nearly zero. After the last filling of B with gas, valve 2 is left open so that A and B are in free communication. The surface of the mercury in the trap, D, is brought to the plane of the etched line, 14, by manipulation of the oil pump on the piston gauge. The pressure in B is now determined as before and this is also the pressure of the gas finally remaining in A.

This final gauge pressure must be low enough to be measured on the short manometer E which, in the present apparatus, had a range of about ± 5 inches of mercury, or somewhat less than ± 2.5 pounds per square inch and to ensure this result it may be necessary to adjust the length of the last few steps in the process. When the gauge pressure in A has fallen to about 100 pounds per square inch it is divided by the average fall of pressure during the three or four immediately preceding cycles. If the quotient is very nearly a whole number, it is evident that this whole number of additional cycles, similar to those immediately preceding, will reduce the gauge pressure so nearly to zero that it will be within the range of the manometer E. In this case no change from the previous rate of withdrawal of gas from A is required. Otherwise, the rate of withdrawal for the remaining cycles must be increased or decreased sufficiently that a whole number of cycles will leave the final residual pressure within the range of the manometer E.

Whether such an adjustment may be needed and, if so, where it should be started, depends on the relative volumes of A and B and on the range of E, so that no general numerical directions are possible, but the practical working of the process is illustrated by the figures in the third and fourth columns of Table 1.

Method of Computing the Super-Compressibility Factor

In developing the equations needed for the computations, the following notation and definitions will be employed.

(a) Constants of the Apparatus

V_a = the volume of the cylinder A and the adjacent tubing, out to the valve 2 and the etched mark 14.

V_b = the volume of the burette, from the mark 13 to the plug of cock when closed.

Only the ratio of these volumes appears in the final equation so that their values may be expressed in terms of any convenient unit.

K (lb./sq. in.) = the trap constant.

It is the gas pressure that must be applied at the top of the trap in order to force the mercury surface down to the mark 14 when the piston of the gauge is floating freely with all the weights removed. It is measured, once for all, on an auxiliary mercury column, as described above under the heading "Adjustments," and then expressed in lb./sq. in.

(b) Observed Quantities

W (lb./sq. in.) = the pressure due to the weights on the piston gauge.

It is the total added weight in pounds divided by the cross section of the piston in square inches. (For convenience, each of the movable weights should be marked with its equivalent in terms of pressure, so that the value of W may be read directly.

B (ins. Hg.) = the barometer reading, corrected to 32° F.

p_b (ins. Hg.) = the reading of the manometer E.

For the highest possible accuracy, p_b should also be corrected to 32° F., but in most cases that would be a useless refinement.[3]

t(° F.) = the temperature of the water bath.

It is assumed that t remains sensibly constant throughout the complete set of measurements on any one sample of gas collected in A. Before starting the observations, time must be allowed for the newly introduced sample to come to the temperature of the bath.

n = the number of cycles of operations in the whole set of measurements on the sample.

(c) Deduced Quantities

B_a (lb./sq. in.) = the barometric pressure expressed in pounds per square inch.

The reduction is made by means of the relation

1 (inch Hg. 32° F.) = 0.4912 (lb./sq. in.)

P_a (lb./sq. in.) = the absolute pressure in the cylinder A and the adjoining tubing as far as the valve 2 and the mark 14, when the valve 1 is open:

$$P_a = W + K + B_a$$

P_b (lb./sq. in.) = the absolute pressure in the burette:

$$P_b = 0.4912\ (B + p_b)$$

V_a = the volume that would be occupied by the mass of gas which fills the cylinder and tubing at the pressure, P_a, if it were allowed to expand to atmospheric pressure, B_a.

y = the supercompressibility factor.

A definition of it is obtained by rewriting equation (3) in the very general form

$$y = \frac{P_1 V_1}{P_2 V_2}$$

in which the subscripts 1 and 2 refer to two sets of conditions so related that P_1 is numerically less than P_2.

By substituting in equation (7) specific values for P and V from the above notation we have

$$y = \frac{B_a V_a}{P_a V_a}$$

in which B_a, P_a and V_a are known and it remains to find the value of V_a.

Let subscript k be used to specify quantities referring to the k-th cycle of oper-

[3] If one has at hand a chart showing the relation of inches of mercury and lb./sq. in. for different temperatures of the mercury it will not be essential to corect B and p_b to 32° F.

ations: k may have any value from 1 to n inclusive.

At the start of the k-th cycle the pressure in the cylinder and tubing is $(P_a)_k$. The gas withdrawn into the burette fills the volume V_b at the absolute pressure $(P_b)_k$; and if its pressure were changed to B_a, its volume would be

$$v_k = V_b \frac{(P_b)_k}{B_a}$$

for P_b is always so nearly equal to the outside barometric pressure B_a that the departure from Boyle's law over this small range of ressure is entirely negligible.

Starting with the k-th cycle and proceeding through the n-th or last, the combined volume, at the pressure B_a, of all the portions of gas withdrawn into the burette is

$$v_k + v_{k+1} + \ldots + v_n = \frac{V_b}{B_a}[(P_b)_k + (P_b)_{k+1} + \ldots + (P_b)_n] = \frac{V_b}{B_a}\sum_n^k P_b$$

At the end of the n-th cycle, the cylinder and tubing remain filled with gas at the final pressure $(P_b)_n$, and if this residual gas were also brought to the pressure B_a, its volume would be

$$v_r = V_a \frac{(P_b)_n}{B_a}$$

All the gas is now accounted for and we have

$$(V_a)_k = v_k + v_{k+1} + \ldots + v_n + v_r$$

or by (10 and 11)

$$(V_a)_k = \frac{1}{B_a}\left[V_b \sum_n^k P_b + V_a (P_b)_n\right]$$

and substituting this value in (8) we have

$$y_k = \frac{1}{(P_a)_k}\left[\frac{V_b}{V_a}\sum_n^k P_b + (P_b)_n\right]$$

as our final equation for computing the value of the supercompressibility at the pressure $(P_a)_k$.

As already remarked, the volumes V_a and V_b appear only as a ratio, nd it may be noted that the pressures also occur in both numerator and denominator of (14). Hence they might equally well have been expressed in inches of mercury instead of pounds per square inch, the only requirement being that P_a and the P_b's shall be expressed in terms of the same unit.

The trap constant K and the volume ratio (V_b/V_a) having been determined once for all, the computation of y from the observed data by means of equation (14) may conveniently be carried out in the following steps.

1. For each cycle of operations, compute the values of P_a and P_b (equations 4, 5 and 6).

2. Starting with the n-th or last value of P_b, add to it the (n — 1)th value of P_b; add to this sum the (n — 2)th value and so on, thus finding the successive values of $\sum_n^k P_b$ for all the cycles, from the last to the first.

3. Multiply each of these sums by the volume ratio (V_b/V_a) and to this product add the n-th value of P_b.

4. Divide each of the quantities thus obtained by the corresponding value of P_a: the quotient is the required value of y.

A sample set of observed and computed values is given in Table 1. If the values of y are plotted against those of P_a, and if a mean curve is drawn through the resulting band of points, it appears that values of y read from the curve will nowhere be in error by more than 0.002, if the volume ratio, V_b/V_a, was accurately determined. The value of $\sqrt{y}$ needed in orifice meter computations will therefore be correct within 1 part in 1,000 and we may conclude that experiments of the sort from which the data in Table 1 were obtained are amply precise for ordinary commercial purposes.

Supplementary Notes

Volume of Tube Between Valve 2 and Cock 3

It may have been noted that the small volume of the tubing between valve 2 and cock 3 which, for convenience, we will designate by u, has been omitted from all calculations. It will now be shown that this omission has introduced no appreciable error. Before the burette is filled with gas the first time, the tubing has been purged and the section u remains full of gas at sensibly atmospheric pressure. Whenever the burette is being purged of gas, u will always remain full of gas, regardless of whether cock 3 is turned so as to entrap the gas therein or not. (It is better practice to turn 3 so as to close off the tube from valve 2; then even if 2 should leak a little the gas will not escape unmeasured.)

Now the actual quantity or mass of gas entrapped within u during each purging of B will depend upon the pressure in B at the time cock 3 is turned to close off u. But this pressure will usually be very nearly atmospheric if the experimental work is done with reasonable care. Hence the successive masses of gas within u will be sensibly equal, and if they are exactly equal it would be unnecessary to consider them at all. This applies to all fillings of B from 1 to (n — 1) inclusive.

After the last or n-th filling of B, all valves between A and B are left open. If at this time it should happen that P_b were just equal to B_a this last mass of gas in u would be equal to the mass of gas in u just prior to the first filling of B. Obviously, in this case no correction would be needed.

In most cases P_b will be either greater or less than B_a and the last mass of gas in u will be correspondingly greater or less than the first. In these cases it is true that, in principle, a correction should be applied, and the amount of this correction could readily be determined. But it is also evident that since this correction would be applied to only the last of the n masses of gas taken from A into B, the correction will have no sensible influence upon the results, if the volume of u is small compared to that of B. (In the apparatus shown in Figure 2 the ratio of u to V_b is less than 1 : 500.)

Relation Between Volumes of Cylinder and Burette

If the volumes of the cylinder and burette are made approximately equal, each filling of the burette will reduce the pressure in the cylinder by approximately one atmosphere—a conveniently simple relation. This, however, might require an undesirably large number of steps or cycles, and when the initial cylinder pressure is 300 pounds or over, it is desirable to have fewer steps than a 1 to 1 ratio of volumes would require. In such cases it would be convenient to have the cylinder and burette volumes in the ratio of 1 to 2 or 1 to 3. Such a relation of volumes would not lessen the accuracy and usefulness of the results, but would greatly shorten the time required to make the test. In a commercial apparatus it might be convenient to have cylinders of two or more sizes, which would permit the use of the size most suitable to the pressure at which the sample was collected.

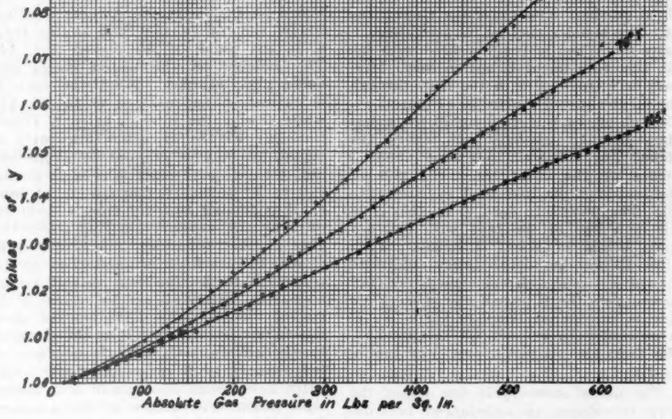

Figure 4—The effects of temperature upon the supercompressibility correction factor. A large gas cylinder was filled with gas to a pressure of about 1,000 pounds and samples of gas were drawn from this cylinder when filling the sample cylinder, A. Analysis of this gas showed it to be 98.7% methane.

Precautions to Be Observed in the Use of the Constant Temperature Bath

With the present apparatus as shown in Figure 2, a water bath is used to maintain the gas and all parts of the apparatus, except the trap and piston gauge, at a constant temperature. This makes it necessary to be very careful that no water enters any of the tubing or joints while operating the apparatus or when removing and replacing the cylinder. If water should get into the burette or tubing, it must be removed. In the case of water in the burette, it may be possible to remove most of it by removing the plug of the cock 3 and forcing the water out with the mercury. The final traces of moisture may best be removed by repeatedly filling the burette with warm air that has been passed through a dryer.

One reason for maintaining the temperature constant is that the magnitude of the supercompressibility factor depends upon the temperature of the gas at which the test is made. In general, the lower the temperature the higher will be the value of this factor, is illustrated by Figure 4; but over a limited temperature range, for instance from 50° F. to 70° F., the change in the value of this factor will probably be small for most industrial gases. The effects of such small variations in the factor upon the measurements of gas will probably be negligible from the standpoint of commercial metering, particularly in measurements by orifice meters where the value of y occurs in the computations only as the square root.

A more important reason for using a water bath is that computations by means of the equations given above are all based on the assumption that the temperature of the gas remains constant throughout each complete set of observations. If this condition is not satisfied, the equations may be modified to take account of the changes of temperature; but the computations are then more complicated and it is better to keep the temperature as nearly constant as practicable. A variation of the order of 1° F., such as is shown in Table 1, may be disregarded.

Effects of Moisture in Connections

In the preceding section attention is called to the necessity of keeping the burette and tubing dry and free from all water and oil particles. Since failure to do this may lead to very misleading results, it will be well to consider this subject in more detail.

At the start of a test the sample cylinder is filled with gas under a relatively high pressure. It may be saturated with water and oil vapors at that pressure and the bath temperature. As the gas is drawn out by successive fillings of the burette, the gas pressure decreases and the gas in both burette and cylinder become relatively dryer. If then this gas comes in contact with particles of water some of this water will be picked up in the form of vapor. This acquired vapor will increase the total pressure of the gas in the burette over that which the gas alone would have, with the result that the value of y will be increased.

If the water particles are in the burette or the connections between the burette and valve 2 the absorption of moisture may take place nearly uniformly throughout the test. The probable effect in this case would be to increase the slope of $y - P_a$ curve more or less uniformly. However, this condition is not the most likely to occur. Firstly, it is seldom necessary to make any changes in the connections of this part of the system once it is put together. Secondly, the most likely place for water to enter would be about the plug of the 3 way cock and even if this should happen the

TABLE 1—COMPRESSIBILITY TEST DATA

Sample collected at—Daly Station. Test No.—XX. Barometer—29.42 at 72°
Date of collection—August —, 1928. Date of test—August —, 1928. —29.44 at 73°
Pressure when collected—210-lb. gauge. Test made by—H. S. B. Room temp.—69.8° — 73°
Volume ratio $V_b/V_a = 0.8672$. Barometer corrected to 32° B = 29.31 inches.
Trap constant K = +9.66 lb./sq. in. B_a = 14.40 lb./sq. in.

k cycle No.	Bath temp. ° F.	W lb./sq. in.	p_b In. Hg.	P_b lb./sq. in.	k $\sum P_b$ n	$\frac{V_b}{V_a}\sum_n^k P_b$	$\frac{V_b}{V_a}\sum_n^k P_b + (P_b)_n$	P_a lb./sq. in.	y
	Observed values			Computed values					
1	32.1	186.2	—0.56	14.12	233.04	202.09	218.26	210.26	1.038
2	...	174.6	+0.67	14.73	218.92	189.85	206.02	198.66	1.037
3	...	162.8	—0.32	14.24	204.19	177.07	193.24	186.86	1.034
4	...	151.2	—0.52	14.14	189.95	164.72	180.89	175.26	1.032
5	32.5	139.8	—0.41	14.20	175.81	152.46	168.63	163.86	1.029
6	...	128.2	—0.26	14.27	161.61	140.15	156.32	152.26	1.027
7	...	116.5	—0.30	14.25	147.34	127.77	143.94	140.56	1.024
8	...	104.7	—0.26	14.27	133.09	115.42	131.59	128.76	1.022
9	...	93.0	—0.05	14.37	118.82	103.04	119.21	117.06	1.018
10	...	80.7	—0.32	14.24	104.45	90.58	106.75	104.76	1.019
11	32.6	69.0	—0.22	14.29	90.21	78.23	94.40	93.06	1.014
12	...	56.9	+0.94	14.86	75.92	65.84	82.01	80.96	1.013
13	...	44.4	+1.16	14.97	61.06	52.95	69.12	68.46	1.010
14	...	31.7	+1.10	14.94	46.09	39.97	56.14	55.76	1.007
15	...	18.9	+1.18	14.98	31.15	27.01	43.18	42.96	1.005
16	32.9	6.1	+3.61	16.17	16.17	14.02	30.19	30.16	1.001

presence of the water would be noticeable.

In the particular apparatus here described the most probable place for water particles to lodge is in the tubing between valves 1 and 2, because the union joint near valve 1 was broken and made each time the cylinder was filled. During a test the gas pressures within this part of the tubing is the same as in the cylinder. If there is any water within this tubing the amount that will be absorbed by a gram of gas will be extremely small at the higher pressures but will increase rapidly as the gas pressure approaches atmospheric. This will cause the increments in y to be excessively large at the a very high degree of accuracy may be obtained by this method and it is well suited to laboratory work on pure, dry gases. However, this method is not suitable when an industrial gas, and particularly a natural gas, is to be studied, because these gases are always more or less saturated with water and oil vapors, particularly when at atmospheric pressure. As such a gas is compressed a part of these vapors is condensed with the result that the deviation from Boyle's law will be exaggerated, and this exaggeration will be relatively more at the lower pressures. In the report[4] on one group of tests made by this method the curves indicate that some condensation occurred which the tubing and trap are subjected, care must be exercised to do it slowly, so as not to subject the glass portion of the trap to sudden pressure changes.

The object of the glass portion of the trap is to enable one to see that the surface of the trap fluid is always at the same height whenever the pressure is determined. Exact readings or settings are not required, as a variation of one-twentieth inch either way from the line would have only a very slight effect on the results. It is therefore possible that in place of glass a tougher translucent material might be used (for example, so-called clear Bakelite tubing). This would greatly reduce the chance of breakage and trouble with the trap.

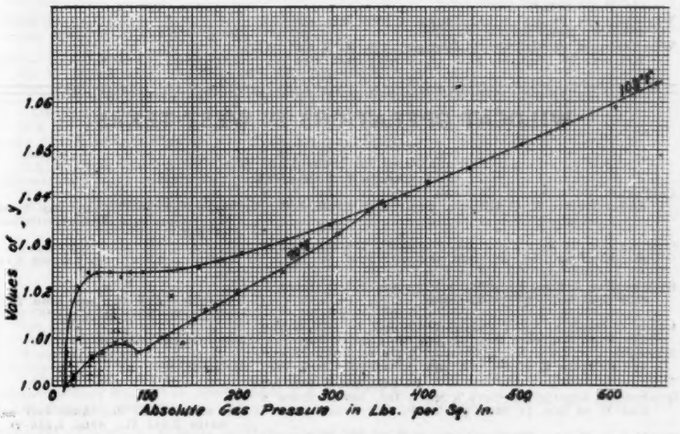

Figure 5—The effects of water in connections upon the supercompressibility correction factor. The samples of gas used in these tests were from the same source as those from which the curves in Figure 4 were obtained.

pressures close to atmospheric, as illustrated in the curves of Figure 5.[4]

Comparison of This and Other Methods of Determining the Supercompressibility Factor

In the method just described the sample of gas which is used represents the actual conditions of pressure and degree of saturation with water and oil vapors that existed in the line at the time the sample was collected. Also, by regulation of the bath water temperature the test can be made at the same temperature as that of the gas in the line. Since this temperature is maintained constant while the pressure is steadily decreased, no condensation of any vapors mixed with the gas will take place. Furthermore, if the test is carefully made, there will be no absorption of additional vapors by the gas, with the result that the $y - P_a$ curve obtained from the test represents the magnitude of the deviation from Boyle's law within the degree of precision mentioned in a preceding section.

In some instances which have been reported, a sample of the gas is collected in a large cylinder at the line pressure. The volume at atmospheric pressure is then obtained by metering the gas through a small laboratory wet gas meter, or by the displacement of water in an inverted bell. This method has been used in a few instances. However, in at least one group of tests made by this method of which a report has been published[5] the curves obtained are similar to those of Figure 5. While this similarity suggests that the sharp rise in the $y - P_a$ curve at low values of P_a was due to the presence of water in some part of the apparatus with which those tests were made, it would be impossible to assign that as the real cause without knowing all of the conditions.

Another method consists of starting with a small sample of the gas at atmospheric pressure and compress it over mercury. The several pressures applied and the corresponding volumes are read by suitable instruments and from the data thus obtained the $y - P_a$ curve can be determined. Under suitable conditions as the gas was compressed, though possibly not enough to be readily observed.

There is also an analytical method which has been tried and possibly used in a few instances. With this method it is assumed that the supercompressibility factor for a gas mixture may be calculated on the basis of a chemical analysis of the mixture if we know the supercompressibility factors for all of the pure constituents.[7] A chemical analysis of a gas sufficiently accurate for this purpose can usually be obtained fairly easily as most companies interested in this question have both the men and the equipment for making such tests. The supercompressibility factors for the pure gases may be obtained from tables in various reference books or may be calculated by one of the several equations of state.[8] In a few instances in which comparisons have been made it was found that results given by this analytical method usually agreed fairly well with the results obtained by the method described in this paper. However, the use of this method is limited because there is little or no reliable data on several of the common constituents of natural gases.

Additional Notes on the Operation and Construction of the Apparatus

Since the apparatus as described uses mercury, it is necessary that there be no parts or fittings, particularly in the mercury and gas leads, that the mercury will attack. This rules out brass fittings and soldered joints for more parts, although pure copper tubing may be used with but little danger of trouble. However, when the water bath is used, it is desirable to avoid the use of iron and steel parts unless they can be adequately protected against the action of water and air.

For connecting the mercury reservoir with the manometer and burette, it is advisable to use a rubber tubing that will not foul the mercury. Such tubing is obtainable under the name of "nitrometer tubing."

Whenever changing the pressure to

[4]After the particular tests were completed from which the curves in Figure 5 were obtained, small drops of water were found in the tubing near valve 1.

[5]Corrections to Boyle's Law for High-Pressure Gas, by D. E. Silcox, Mechanical Engineering, November, 1925, page 897.

[6]Deviation of Natural Gas from Boyle's Law, by R. F. Earhart and S. S. Wyer, Trans. A.S.M.E., Vol. 38 (1916), p. 285.

[7]The Compressibility of Natural Gas at High Pressures, by G. A. Burrell and I. W. Robertson, Bureau of Mines Technical Paper No. 131.

[8]Relations Between the Temperature Pressure and Density of Gases, Circular of the Bureau of Standards No. 279.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 66)

Skelly Oil Co.'s No. 20 Schafer, 330 ft. N, 990 ft. W. SE cor. N½, Sec. 198, Blk. 3, I.&G.N. Sur. ..... S.D. 3,090 ft.
The Texas Co.'s No. 3 Noel, 330 ft. N and W, SE cor. NW, Sec. 187, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 3,148 ft.
The Texas Co.'s No. 3 Quinn, 330 ft. N, 990 ft. E, SW cor. E½, Sec. 7, Blk. 9, I.&G.N.R.R. Sur. ..... Drlg. 2,725 ft.
L. W. Timm's No. 1 Gamer, 330 ft. N and E, Sec. 104, Blk. 4, I.&G.N.R.R. Sur. ..... Drlg. 840 ft.
L. W. Timm's, No. 2 Garnet (White Deer), 330 ft. S & W, NE cor., Sec. 104, Blk. 4, I.&G.N.R.R. Sur ..... Location.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Slemmons, SW cor., Sec. 73, Blk. M-17, B.S.&F. Sur. ..... Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur. ..... S.D. 510 ft. for csg.

CHILDRESS COUNTY

Continental Oil Co. and Sun Oil Co.'s No. 1 Johnson, 660 ft. from NE of Sec. 580, Blk. H, W.&N.W. Sur. .. Rigging up.
C. L. Sloane et als' No. 1 B. P. Smith, Sur. 49, F. P. Knott lands ..... S.D. 4,875 ft.

COCHRAN COUNTY

Westbrook et als' No. 1 Slaughter, 400 ft. from S and E, Labour 67, League 118, Knox Co. School lands ... Drlg. 3,020 ft.

DONLEY COUNTY

Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. from N line, 985 ft. from E line, Sec. 22, Blk. E, D.&P.R.R. Sur. .T.D. 3,006 ft; contract depth.
Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk. G, G.C.&S.F. Sur. ..... S.D. 3,200 ft.
Southland Oil Co.'s No. 1 Lewis, C SE 40 ac., Sec. 3, Blk. 29, H.&G.N.R.R. Sur. ..... T.D. 3,005 ft; temp. abd.

GRAY COUNTY

Adams Oil Co.'s No. 4 Morse, 330 ft. S and W, NE cor. Sec. 3, Blk. 26, H.&G.N.R.R. Sur. ..... S.D. 2,495 ft; S.O.
Alexander and Shell Pet. Corp.'s No. 1 Harrah-McKinney, 330 ft. S and W, NE cor. E½ SE, Sec. 163, Blk. 3, I.&G.N.R.R. Sur. ..... S.G. 3,065 ft; T.D. 3,235 ft; spraying 30 bbls. daily; 5,000,000 ft. gas; T.P. 3,159-70 ft; to put on pump.
Camel Oil Co.'s No. 2-B Harrah, 330 ft. from N and E, Sec. 150, Blk. 3, I.&G.N.R.R. Sur. ..... Rig.
Clayton-Key Oil Co.'s No. 1 Key, 330 ft. from S and W of E 42 ac. of N 84 ac. of S 168 ac., Sec. 1, B.&B. Sur. ..... 7,000,000 ft. gas 2,425-2595 ft.; T.D. 2,774 ft; S.O. 2,664-80 ft; increase at 2,695-2,700 ft; spraying 48 bbls. daily.
Constantine et als' No. 1 Crews, 330 ft. S and W, NE cor. SW, Sec. 20, Blk. 30, H.&G.N.R.R. Sur. ..... S. G. 2,190 ft.; S. D. 2,390 ft.
Danciger et als' No. 11 Jackson, 330 ft. S, 1,320 ft. W, NE cor. NW, Sec. 83, Blk. B-2, H.&G.N. Sur. ..... T.D. 2,906 ft.
Danciger O. & R. Co.'s No. 5 Morse, 330 ft. N and E, SW SW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. .... S.D. 2,505 ft.
Danciger O. & R. Co.'s No. 1 Shaw, 330 ft. from S, 286 ft. from E of E 39½ ac., NW, Sec. 5, Blk. 1, A.C.H.&B. Sur. ..... T.D. 2,588 ft.
Danciger O. & R. Co.'s No. 2 Smith, 330 ft. from S and E, SE, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 2,620 ft.
Danciger O. & R. Co.'s No. 1 Williams, 330 ft. from N, 330 ft. from E, S½ NW ..... Estimated 15,000,000 ft. gas 2,610-70 ft; S.D. 2,720 ft.
Dunlop's No. 4 Morse, 330 ft. N and E SW cor. SW, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. ..... T.D. 2,431 ft.
Follet Pet. Corp.'s No. 1 Hood, 330 ft. from S and W of W 80 ac., SW, Sec. 32, Blk. 3, H.&G.N.R.R. Sur. Rig.
Sines & Reiger's (formerly Eslick et als') No. 1 Mrs. J. A. Hopkins, NW cor. W 80 ac. of SW, Sec. 84, Blk. B-2, H.&T.C. Sur. ..... S.D. 3,206 ft.
Gardner Bros. and Collins' No. 2 Saunders, 955 ft. from S, 330 ft. from E of W 68 ac. E½, J. G. Eustice Sur. Location.
Gulf Prod. Co.'s No. 1 Barrett, 967 ft. N and E, SW cor. NE, Sec. 131, Blk. 3, I.&G.N.R.R. Sur. ..... S.D. 2,550 ft.
Gulf Prod. Co.'s No. 1 Combs, 330 ft. N and W, SE cor., Sec. 35, Blk. 3, I.&G.N.R.R. Sur. ..... Location.
Gulf Prod. Co.'s No. 3 Worley-A, 330 ft. N, 1,650 ft. W. SE SW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ..... Temp. abd. at 3,163 ft.
Gulf Prod. Co.'s No. 3 Saunders, 330 ft. S, 990 ft. E, NW cor. its 130-ac. lease out of SW cor., Sec. 40, Blk. 3, I.&G.N.R.R. Sur. ..... S. D. 3,050 ft.
Guernsey Oil Co.'s No. 1 Vaniman, 330 ft. N and W, E½ NE, Sec. 175, Blk. 3, I.&G.N.R.R. Sur. ..... S.G. 2,886 ft; drlg. 3,060 ft; 35,000,000 ft. gas 2,950 ft.
Haymer O. & G. Co.'s No. 1 Morse, 330 ft. each way out of SE cor. E½ SE, Sec. 45, Blk. A-9, H.&G. N. Sur. ..... S.D. 2,100 ft.
Herragan Oil Co.'s No. 1 Bradford, 330 ft. from N, 990 ft. from E, Sec. 123, Blk. B-2 ..... First S.G. 2,475-80 ft; 15,000,000 ft. gas 2,515-40 ft.; S.D. 3,140 ft.; S.O. 2,932-50 ft.
Humble Oil & Ref. Co.'s No. 1 Combs-Worley, 330 ft. S & W of N half of SE Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ..... Location.
Lyon et als' No. 1-A Morse, 330 ft. from S and W, NW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... Rig.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. from N and W cor. SE, Sec. 200, Blk. B-2, H.T.N. Sur. .. Spudding.
Magnolia Pet. Co.'s No. 4 Harrah, 330 ft. each way SW cor. NW Sur. 150, Blk. 3, I.&G.N.R.R. Sur. ..... Rigging up.
Magnolia Pet. Co.'s No. 1 Cubine, 330 ft. N and W, NE, Sec. 36, Blk. 25, H.&G.N.R.R. Sur. ..... Rig.
McIlroy Oil Co.'s No. 1 Arnold, 330 ft. each way NW cor. NW Sur. 139, Blk. 3, I.&G.N.R.R. Sur. ..... Rig.
McMan Oil & Gas Co.'s No. 7, Palmer 990 ft. S & 930 ft. W of NE cor. of E 100 ac. of W 200 ac., Sec 31, Blk. B-2, H.&G.N.R.R. Sur. ..... Location.
Operators Royalty Co.'s No. 1 Eddington, 330 ft. each way NE cor. NW Sur. 34, Blk. B-2, H.&G.N.R.R. Sur.. Rig on ground.
Oil Operators' No. 1 Bowers, 330 ft. from N, 330 ft. E. Sec. 93, Blk. B-2, H.&G.N. Sur. ..... Show oil and gas 2,400-17 ft; S.D. 3,090 ft; S.O. 3,036-55 ft; first gas 2,483 ft; increased at 2,500 ft., 2,544 ft. and 2,950 ft.
Operators Oil Co.'s No. 5 Cook-Faulkner, 990 ft. N, 330 ft. W, SE W 90 ac., Sec. 30, Blk. B-2, H.&G.N. Sur.. Drlg. 2,884 ft; spraying 5 bbls. oil per hr; T.P. 2,860-84 ft.
Operators Oil Co.'s No. 7 Cook-Faulkner, 330 ft. S, 820 ft. E, NW cor., Sec. 30, Blk B-2, H.&G.N. Sur. ..... S.G. 2,380 ft; 30,000,000 ft. gas. 2,691-2,830 ft; S.D. 2,846 ft; flowing 30 bbls. per hr; T.P. 2,828 ft.

Phillips Pet. Co.'s No. 6 Jackson, 330 ft. from N, 990 ft. from E, line, S½ NE, Sec. 88, Blk. B-2, H.&G. N.R.R. Sur. ..... T.D. 3,030 ft.
Queen Oil Co.'s No. 1 Lovett, 330 ft. N and W, W½ NE, Sec. 35, Blk. B-2, H.&G.N.R.R. Sur. ..... Coring 2,884 ft.
Quillian et als' No. 1 Barrett, 330 ft. from N, 330 ft. from E, Sec. 131, Blk. 3, H.&G.N. Sur. ..... 20,000,000 ft. gas 2,660-2,705 ft S.O. 3,100 ft; T.D. 3,400 ft; 15,000,000 ft. gas at 2,800 ft; to P.B. for gas.
Ray et als' No. 1 Noble, 240 ft. from S and 330 ft. from W line, W 80 ac., SW Sec. 10, Blk. A-6, H. &G.N. Sur. ..... S. G. 2,708 ft.; S. D. 2,912 ft.
Rieger & Steckoll's No. 1 Bohr, 330 ft. from S and E, Sec. 37, Blk. B-3, H.&G.N. Sur. ..... S. D. 2,505 ft.
Robertson & Devore's No. 1 Saunders, 330 ft. from S and W, E½ NW, Sec. 40, Blk. 3, H.&G.N.R.R. Sur. .. Drlg. 1,825 ft.
Shamrock O. & G. Co.'s No. 3 Saunders, 330 ft. N and E, SW E½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... 12,000,000 ft. gas 2,458-2,585 ft; spraying oil 2,550-85 ft; drlg. 2,426 ft.
Shamrock O. & G. Co.'s No. 1 Taylor, 330 ft. each way out of NE cor. NW, Sec. 1, Blk 2, H.&G.N. Sur. .... S.G. 2,245-85 ft; drlg. 2,984 ft; 1,000,000 f. gas 2,805-10 ft.
Smith & McDaniel's No. 1 Noble, 330 ft. N and 943 ft. E, SW NE, Sec. 49, Blk. A-9, H.&G.N.R.R. Sur. .... Spudding 150 ft.
St. Clair Oil Co.'s No. 1 Dial, 330 ft. S and W, NE cor. SE, Sec. 10, Blk. 25, H.&G.N.R.R. Sur. ..... Spudded and S.D.
St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor., Sec. 35, W. R. Lee Sur. ..... Spudded and S.D.
Stover and Shell's No. 1 Saunders, 990 ft. from N, 330 ft. from E, of N 100 ac., of W 149 ac., Sec. 3, B.&B. Sur. ..... T.D. 1,806 ft; cmtd. 10-in.
Southern Expltn. Co.'s No. 1 Noel, 330 ft. S and W, W½ NW, Sur. 138, Blk. 3, I.&G.N.R.R. Sur. ..... Rigging up.
The Texas Co.'s No. 1 Bell, 2,310 ft. from N, 2,640 ft. from W, Sec. 183, Blk. B-2, H.&G.N.R.R. Sur. .... S.D. 755 ft.
The Texas Co.'s No. 8 Cook-Faulkner, 1,158 ft. N, 1,835 ft. W, SE cor., Sec. 29, Blk. B-2, H.&G.N.R.R. Sur... Sprayed 300 bbls. first 24 hrs; drlg. 2,805 ft; T.P. 2,675-78 ft. and 2,740 ft; flowing 345 bbls. per day.
The Texas Co.'s No. 6, Combs-Worley, 330 ft. S & E of NW cor. S ½ of SE of Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ..... Location.
The Texas Co.'s No. 15 Saunders, 330 ft. N and W, SE cor. W½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. .... S.D. 2,610 ft.
Travis & Rieger's No. 1 Mackie, 330 ft. from N and E, Sec. 114, Blk. B-2, H.&G.N.R.R. Sur. ..... 16,000,000 ft. gas; T.P. 2,685 ft.; rig burned 3,343 ft.
Travis et als' No. 1-B Webb, 330 ft. N and W, Sec. 61, Blk. 25, H.&G.N.R.R. Sur. ..... T.D. 1,875 ft; U.R. 8¼-in. csg.
Tripplehorn Oil Co.'s No. 1 Morse, 330 ft. from S and W, SW SE, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. ..... S.D. 1,510 ft.
Vulcan O. & G. Co.'s No. 1 Carpenter, 330 ft. from N and W of W 80 ac., NW, Sec. 25, Blk. 25, H.&G.N. R.R. Sur. ..... S.D. 310 ft.
Wright Wilson, trustee's No. 1 Chapman, 175 ft. from S and E lines, N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. S.O. 2,685 ft; S.D. 2,693 ft.
Wilcox-Pampa Oil Co.'s No. 10 Combs-Worley, 330 ft. S and W, NE cor. SW SW, Sec. 35, Blk. 3, I.&G. N.R.R. Sur. ..... S. D. 2,820 ft.; 32,000,000 ft. gas and 90 bbls. oil first 7 hrs; T.P 2,811-13 ft.

HARTLEY COUNTY

Dana O. & G. Co.'s No. 1 Fritz, C NE, Sec. 81, Blk. 44, H.&T.C.R.R. Sur. ..... Drlg. 2,140 ft.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood, 320 ft. from N and W lines, League 7, Wilbarger County School lands; elevation 3,363 ft; contract depth 5,000 ft. ..... Drlg. 4,450 ft.

HUTCHINSON COUNTY

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S, 320 ft. W, NE cor. N 160 ac., S 240 ac., Sec. 85, Blk. 46, H.& T.C. Sur. ..... S.O. and wtr. 3,010-11 ft; S.D. 3,095 ft.
Danciger O. & R. Co.'s No. 3 Moore, 330 ft. S and E, NW W½ SE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. .... S.D. 2,870 ft.
Danciger Oil & Gas Co.'s No. 4 Moore, 330 ft. N and E of SW cor. W half SE Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ..... Drlg. 1,106 ft.
Gulf Prod. Co.'s No. 1, W. E. Herring, 1320, ft. N and 1,395 ft. E of SW cor., Sec. 5, Blk. J, H.&G.N. .... Location.
Gulf Prod. Co.'s No. 1, Herring-A, 990 ft S & 990 ft. W of NE cor. George Bazon, Sur. ..... Location.
Huey et als' No. 3 Smith et al, 330 ft. from N, 660 ft. from W, S 40 ac. of E 100 ac., SE, Sec. 12, Blk. Y.. S.D. 2,702 ft.
Phillips Pet. Co.'s No. 1 Johnson-Mayer, 990 ft. from N line and 990 ft. from W line of NE Sec. 37, Blk. Y, A.&B. Sur. ..... Cellar.
Reliance O. & G. Co.'s No. 2 Sanford, 330 ft. S and E, NW W½ of N 80 ac. of S 320 ac., Sec. 83, Blk. 46, H.&T.C. Sur. ..... Drlg. 2,810 ft.
Smith & McDaniel's No. 1 Pitcher, 330 ft. from S and E, Sec. 19, Blk. M-21, T.C.R.R. Sur. ..... T.D. 3,177 ft; T.P. 3,120-73 ft; 700 ft. oil in hole.
Spurlock et als' No. 1 Christian, 330 ft. from E, 440 ft. from N, SE SE, Sec. 33, Blk. Y, A.&B. Sur. .... S. D. 405 ft.
Skelly Oil Co.'s No. 1 Byrd, 2,640 ft. from E line, 3,960 ft. from S line of W 3,094 acres, D. Luce Sur. ..... Rigging up.
The Texas Co.'s No. 4 J. L. Moore, 330 ft. S and W, NE cor. SW, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. .... Drlg. 2,930 ft.
Texarado Oil Co.'s No. 2, Sanford, 330 ft. S & 990 ft. W of NE cor. N 80 ac., of S 160 ac. of Sec. 83, Blk. 46, H.&T.C.R.R. ..... Location.

LAMB COUNTY

Graham O. & G. Co. et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... Drlg. 4,128 ft.

LIPSCOMB COUNTY

Brown et als' No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ..... Shut down 3,750 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... Shut down 4,860 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft.; S.D. 4,167 ft.

MOORE COUNTY

Canadian River Gas Co.'s No. 1-C Sneed, 660 ft. from N and E, SW, Sec. 46, Blk. 6-T, T.&N.O.R.R. Sur. .. Drlg. 1,510 ft.
Dana O. & G. Co.'s No. 1 Anthony, C NW, Sec. 260, Blk. 44, H.&T.C.R.R. Sur. ..... Drlg. 3,580 ft.
Fritch O. & G. Co.'s No. 1 Lee Bivins, C N 40 ac. of N 160 ac., Sec. 4, Geo. Mahan Sur. ..... 2,000,000 ft. gas 1,550-65 ft.; drlg. 3,010 ft; 6,000,000 ft. gas.
Gulf Prod. Co.'s No. 1 Kilgore, C SW, Sec. 22, Blk. P.Mc., E.L.R.R. Sur. ..... Location.
Operators Royalty Co. et al's No. 1 Jones, 330 ft. from S line, 330 ft. from E line of SW SW Sec. 164, Blk. 3-T, T.&N.O.R.R. Sur. ..... Set 12-in. at 510 ft.
Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. each way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. ..... Drlg. 2,400 ft.

MOTLEY COUNTY

Explin. Co.'s No. 6 Matador, 330 ft. from N line, 330 ft. from E line, Sec. 132, Blk. M ..... S.D. 4,011 ft.
Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 16, Blk. G, B.&B. Sur. ..... S.D. 580 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 .. S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 ..... T.D. 5,992 ft; shot 10 qts. 5,370-93 ft; S.O. 5,288 ft; C.O.

WHEELER COUNTY

Burnett & Hosher's No. 1 Hosher, 330 ft. N and W, SW SE, Sec. 63, Blk. 17, H.&G.N.R.R. Sur. ..... S.D. 1,370 ft.
Dunaway Bros.' No. 1 Worley, 330 ft. S and W, NE cor. NW, Sec. 39, Blk. 24, H.&G.N.R.R. Sur. ..... Rigging up.
Edwards et al's No. 1 Cates, C NW NE Sec. 73, Blk. 23, H.&G.N. Sur ..... Spudding 175 ft.
Lela O. & G. Co.'s No. 1 Williams & Laycock, 330 ft. from S, 209 ft. from W, W½ NW, Sec. 20, Blk. A-8, H.&G.N. Sur. ..... Drlg. 2,053 ft; 5,000,000 ft. gas 1,932-2,025 ft.
Lone Star Gas Co.'s No. 1 Ridinger, C NW NW Sur. 65, Blk. 17, H.&G.N. Sur. ..... Location.
Martin & Debous' No. 3 Close, C NW NE Sec. 83, Blk. 23, H.&G.N.R.R. Sur. ..... Drlg. 950 ft.
Prince & Adam's No. 1 Buchanan, C NW NE, Sec. 89, Blk. 17, H.&G.N. Sur. ..... S.G. 1,785 ft; drlg. 1,835 ft; 8,000,000 ft. gas 1,807-35 ft.
Upham Gas Co.'s No. 5 Close-Gooch, 30 ft. N, 660 ft. E, SW cor. SW NW, Sec. 81, Blk. 23, H.&G.N.R. R. Sur. ..... Location.
Upham Gas Co.'s No. 1 Tinley, C NE NE Sur. 66, Blk. 17, H.&G.N.R.R. Sur. ..... Spudding 150 ft.
Wischkamper et als' No. 2 Curry, C NW SE, Sec. 53, Blk. 23, H.&G.N. Sur. ..... Drlg. 840 ft.
Wischkamper et als' No. 2 Johnson, 200 ft. S and W, NE cor. SE, Sec. 50, Blk. 17, H.&G.N.R.R. Sur. .. .. S.D. 1,645 ft.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 65)

CROCKETT COUNTY

California Co.'s No. 1 Shannon, Lease 3, 1,663 ft. N and 2,323 ft. W of SE cor., Sec. 42, T.C.R.R. Sur. ... Top salt 1,110 ft.; top pay 2,542-50 ft.; oil rose 1,800 ft. in hole 11 hrs.
Cushing Ref. & Gas Co.'s No. 3 Powell, 330 ft. from S and E of Sec. 53, Blk. BB, G.C.&S.F.R.R. Sur. ..... Top salt 1,030 ft.; shut down 2,445 ft.
Empire Gas & Fuel Co.'s No. 1 Shannon, 330 ft. from N and E of Sec. 42, T.C.R.R. Sur. ..... Top salt 1,130 ft.; top lime 2,468 ft.; drlg. 2,587 ft.
Lewis & Daniels' No. 1 Pecos River bed, 19 yds. S and 37° E of NW cor., Sec. 33, Blk. 1, I.&G.N. Sur. ..... Shut down 1,384 ft.
Magnolia Pet. Co.'s No. 1 Hoover, 2,310 ft. from N and 330 ft. from E of Sec. 12, Blk. 1, G.C.&S.F.R.R. Sur... Drlg. 200 ft.

CULBERSON COUNTY

Grisham & Hunter Oil Corp.'s No. 1 fee, 330 ft. from S and W of Sec. 14, Blk. 59, T.&P. Sur. ..... Oil show 1,437 ft.; hole full salt water 2,612 ft.; drlg. 3,250 ft.
Grisham & Hunter Oil Corp.'s No. 1 Seay, 330 ft. from S and W of Sec. 16, Blk. 59, Twp. 7, T.&P.R.R. Sur. .. Hole full sulphur water 2,590 ft.; Total depth 3,021 ft
Grisham & Hunter Oil Corp.'s No. 3 Seay, 330 ft. from S line, 330 ft. from W line, Sec. 16, Blk. 59, Twp. 7 .. Underreaming 12½-in. casing 390 ft.; drlg. 1,075 ft.
Hickey & Stiver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W, Sec. 20, Blk. 82 ..... Small show oil 1,331 ft.; shut down 2,275 ft.; hole full water; elev. 3,874 ft.
West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW, Sec. 14, Blk. 81 ..... Slight show oil 740 ft.; shut dowr 875 ft..
Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E, Sec. 1, Blk. 97, Public School Land ..... Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; oil show 2,528 ft.; hole full sulphur water; running 6-in. casing; shut down 3,508 ft.

ECTOR COUNTY

Anderson's No. 1 fee, 1,320 ft. E along N line, Sec. 19, and 150 ft. N at right angles with line, Sec. 18, Blk. B-16, Public School Land ..... Moving in material.
Cosden Oil Co.'s No. 1-A University, 2,310 ft. from N, 440 ft. from E of Sec. 1, Blk. 35 ..... Drlg. 2,030 ft.
Cosden Oil Co.'s No. 1 University-B, 1,650 ft. S and 440 ft. W of NE cor. Sec. 2, Blk. 35 ..... Top lime 1,095 ft.; drlg. 2,950 ft.
Landreth Prod. Corp.'s No. 1-S University, 990 ft. S and 440 ft. W of NE cor. Sec. 2, Blk. 35 ..... Top salt 1,080 ft.; show oil 3,140 ft.; drlg. 3,347 ft.
Landreth Prod. Corp.'s No. 1-T University, 990 ft. N, 440 ft. E, Sec. 3, Blk. 35, University Land ..... Drlg. 2,890 ft.
Llano Oil Co.'s No. 1 Midland, 330 ft. N and W of Sec. 18, Blk. 44, Twp. 3s, T.&P.R.R. Sur. ..... Drlg. 500 ft.
Penn-Humble's No. 1 York, 330 ft. N, 2,640 ft. W, Sec. 16, Blk. 44, Twp. 3s, T.&P.R.R. Sur. ..... Top salt 1,240 ft.; top lime 3,275 ft.; show gas 3,333-35 ft.; flowed 489 bbls. 24 hrs.; total depth 3,755 ft.

EL PASO COUNTY

Laytex's No. 1 Malone, 2,200 ft. SW and NW, Sec. 46, J. M. Day Sur. ..... Shut down 1,481 ft.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlow, Sec. 60, V-8, J. C. Clift Sur. ..... Shut down 3,000 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 Bledsoe, 330 ft. N and E of SW SE, Sec 200, B.B.B.&C.R.R. Sur. ..... Shut down 2,925 ft.
Cranfill & Reynolds' No. 1 Johnson, 440 ft. from N and 1,540 ft. from W of Sec. 3, Blk. R, Richardson Sur... Location.
Magnolia Pet. Co.'s No. 1 Lee, Sec. 357, 2,310 ft. from N and 4,286 ft. from W ..... Drlg. 4,225 ft.
Mid-Kansas' No. 1 Stephens, Sec. 26, 1,800 ft. from N, 330 ft. E, El Paso County School Land ..... Drlg. 3,776 ft.

GAINES COUNTY

Louisiana Oil & Ref. Co.'s No. 1 Ralph, 1,320 ft. from S and W of Sec. 7, Blk. A-28, Public School Land .. Drlg. 2,837 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 6, H.&G.N. Sur. ..... Location.
Pandem Oil Corp.'s No. 1 Stokes, 2,310 ft. N and E of SW, Sec. 32, Blk. 5, G.H.&H.R.R. Sur. ..... Total depth 3,018 ft.; show oil 2,908-18 ft.; plugged back to 2,938 ft.; 300 ft. oil in hole and 1,700 ft. water.

GLASSCOCK COUNTY

Amerada Pet. Corp.'s No. 1 Coffee, Sec. 22, Blk. 33, Twp. 2s, 990 ft. from N, 2,310 ft. from W ..... Top lime 2,058 ft.; 700 ft. oil in hole; drlg. 2,220 ft.
California Co.'s No. 3 Currie, 990 ft. S and 2,310 ft. W of NE cor., Sec. 219, Blk. 29, W.&N.W.R.R. Sur. .. Showing oil from 3,022-31 ft.: coring 3,280 ft.
California Co.'s No. 1 Jones, 330 ft. S from N and E lines, Sec. 25, Blk. 33, Twp. 2s, T.&P. Sur. ..... Derrick.
Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Show oil 970 ft.; shut down 1,300 ft.
Glasscock et al's No. 1 Edwards, 330 ft. from S, 1,650 ft. from E, Sec. 18, Blk. 33, Twp. 2s, T.&P.R.R. Sur... Cem. 6-in. casing 2,276 ft.; top oil sand 2,132 ft.; total depth 2,299 ft.; pumping 105 bbls. oil, 15 per cent water; rigging up standard tools to drill deeper.

Kirby Pet. Co.'s No. 3 Baker, Sec. 23, Blk. 33, Twp. 2s, 1,650 ft. from N, 330 ft. W ..... Salt water 1,450-70 ft.; drlg. 1,590 ft.

Lion Oil & Ref. Co.'s No. 3 Coffee, 990 ft. S and 330 ft. W of NE cor. Sec. 22, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Topped lime 2,053 ft.; 1,500 ft. oil in hole; top pay 2,165-75 ft.; total depth 2,280 ft.

Simms Oil Co.'s No. 2 Coffee, Sec. 22, Blk. 33, Twp. 2s, 1,650 ft. from N, 330 ft. E ..... Drlg. 1,800 ft.

World Oil Co.'s No. 2-C McDowell, Sec. 21, Blk. 34, Twp. 2s, 330 ft. S and 2,310 ft. E of NW cor. ..... Hole full water 840-75 ft.; drlg. 2,245 ft.

HOWARD COUNTY

Continental Oil Co.'s No. 2 Clay, Lease 1, 330 ft. N and 990 ft. E of SW cor. Sec. 127, Blk. 29, W.&N.W.R.R. Sur. ..... Total depth 2,942 ft.; plugged back 2,935 ft.; top pay 2,925-32 ft.; 700 ft. oil in hole; to put on pump.

Continental Oil Co.'s No. 13 Clay-A, 1,980 ft. S and 200 ft. W of NE cor. of Sec. 139, Blk. 29, W.&N.W.R.R. Sur. ..... Total depth 1,850 ft.; oil sand 1,823-30 ft.; filled 100 ft. in 10 hrs.; cleaning out to test.

Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor, Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ..... Shut down 1,456 ft.; sulphur water 1,433-46 ft.

Empire Gas & Fuel Co.'s No. 4 Clay, 330 ft. N and 2,310 ft. W of SE cor. Sec. 127, Blk. 29, W.&N.W.R.R. Sur. ..... Total depth 950 ft.

Group No. 1 and Continental Oil Co.'s No. 2 Overton, 1,650 ft. from N and 2,310 ft. from E line of Sec. 5, Blk. 32, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 875 ft.

Group No. 1 and Continental Oil Co.'s No. 3 Overton, 990 ft. from N and 330 ft. from E line of Sec. 5, Blk. 32, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 188 ft.

Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 ..... Drlg. 1,600 ft.

Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Set 10-in. casing; shut down 261 ft.

Plymouth Oil Co.'s No. 4 Abrams, 330 ft. from N and 1,650 ft. from W, Sec. 5, Blk. 32, Twp. 2s ..... Top pay 2,480 ft.; total depth 2,519 ft.; plugged back 2,505 ft.; pumped 20 bbls., 15 per cent water, in 24 hrs.; may shoot.

Pure Oil Co.'s No. 3 Hooks, 2,440 ft. S, 1,036 ft. W, Sec. 140, Blk. 29, W.&N.W.R.R. Sur. ..... Drlg. 1,464 ft.

Schermerhorn Oil Co.'s No. 2 Kloh et al, 990 ft. from S and W of Sec. 13, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 1,800 ft.

Schermerhorn's No. 7-A Roberts, Sec. 137, Blk. 29, 2,490 ft. from N and E line, W.&N.W.R.R. Sur. ..... Drlg. 1,300 ft.

Simms Oil Co.'s No. 2 Clay, 330 ft. from S, 2,310 ft. from W, Sec. 127, Blk. 29 ..... Oil show 1,570-80 ft.; total depth 2,010 ft.

Ward Oil Co.'s No. 21 Roberts, 2,310 ft. N and 990 ft. E of SW cor. of Sec. 137, Blk. 29, W.&N.W.R.R. Sur. .. Drlg. 2,150 ft.

HUDSPETH COUNTY

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor., Sec. 19, Blk. E ..... Drlg. 3,045 ft.

Western States Oil Co.'s No. 1 Moore, C SE, Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. ..... Shut down 2,760 ft.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ..... Shut down 3,140 ft.

IRION COUNTY

Beesley's No. 1 Sawyer Cattle Co., 1,320 ft. N and E of SW cor., Sec. 3,032, Blk. 24, H.&T.C.R.R. Sur. ..... Hole full salt water 1,175 ft.; shut down 1,250 ft.

Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 ..... Shut down 1,105 ft.

Carl Cromwell's No. 1 Tankersley, 2,490 ft. from S and E, Sec. 1,219, T.C.R.R. Sur. ..... Shut down 520 ft.

Cromwell et al's No. 1 Fuller, 2,134 ft. N and 631 ft. W of SE cor., Sec. 81, Blk. 1, H.&T.C.R.R. Sur. ..... Drlg. 810 ft.

Dennys & Andrews' No. 1 Tankersley, 2,660 ft. from W, 600 ft. from S of Sec. 4, H. N. Wallace Sur. ..... Shut down 520 ft.

Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE, Sec. 19, Blk. 7, H.&T.C. Sur. ..... Show gas 7,656 ft.; set 4½-in. casing 7,550 ft.; encountered 2,400 ft. sulphur water at 7,818 ft.; testing 7,670 ft.; plugged back with lead wool to 7,718 ft.; plugged back with cement to 7,668 ft.; shot 80 qts.; bridged over 800 ft. to 7,145 ft.; cleaning out.

J. A. Starkweather's No. 1 Lindley, Sec. 1,160½, 900 ft. from S, 150 ft. from E, H.&T.C. Sur. on E ..... Shut down 1,475 ft.; salt water 1,470-75 ft.

P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Fishing tools 6,720 ft.

JONES COUNTY

Continental Oil Co.'s No. 1 Phillips, 440 ft. from S and 330 ft. from E of Phillips 80-ac. tract, Sec. 16, Blk. 19, T.&P. Sur. ..... Drlg. 2,300 ft.

Cosden-Herbert et al's No. 3 Bickley, 330 ft. N and W of SE cor. of S half NW, Sec. 50, Blk. 18 ..... Rig.

Cranfill & Reynolds' No. 1 Stevens, 990 ft. from N and 3,630 ft. from W of John McMullen Sur. 337 ..... Shut down 2,795 ft.

Mid-Tex Oil & Gas Co.'s No. 1 King ..... Shut down 1,590 ft.

Shaheen et al's No. 1 King ..... 800 ft. fluid in hole; shut down 2,176 ft.; top pay 2,061 ft.; 1,200 ft. oil in hole.

W. S. Ware's No. 2 Newman, 150 ft. from N and 2,090 ft. from E of Sec. 52, Blk. 18, T.&P.R.R. Sur. ..... Location.

KENT COUNTY

California and Atlantic's No. 1 Wallace, 330 ft. from S and W, Sec. 60, Blk. G, W.&N.W.R.R. Sur. ..... Drlg. 1,880 ft.

White & Smith's No. 1 Pursley estate, 1,320 ft. from E and 2,640 ft. from S of Sec. 8, Blk. E, H.&T.B. Sur. .. Shut down 300 ft.

KIMBLE COUNTY

C. L. Bryant et al's No. 1 Lambert, 700 ft. from N and W line of F. Lotta Sur. ..... Shut down 800 ft.

McLean & Jamison's No. 1 Cannon, 1,940 ft. N and 300 ft. W of SE cor. Robert Cochran Sur. ..... Shut down 1,500 ft.

LOVING COUNTY

Humble Oil & Ref. Co.'s No. 1 Kloh, 2,640 ft. N and W, Sec. 35, Blk. 55, Twp. 2, T.&P.R.R. Sur. ..... Total depth 3,650 ft.

Independent O. & G. Co.'s No. 1 Wheat, 330 ft. each way from W cor of Sec. 85, Blk. 1, W.&N.W. Sur. ..... Shut down 4,320 ft.; 500 ft. oil in hole.

Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. ..... Spudding 140 ft.

LYNN COUNTY

Lu'ewell Oil Co.'s No. 1 May, 2,310 ft. S, 2,310 ft. W, Sec. 10, Blk. 7, E.L.R.R. Sur. ..... Shut down 190 ft. for casing.

George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. ..... Top salt 2,140 ft.; oil show 1,580-90 ft.; hole full sulphur water 4,730 ft.; set 6-in. casing 4,733 ft.; shut down 5,040 ft.

MENARD COUNTY

Cromwell & Duffey's No. 2 Winslow, 250 ft. S and E of NW cor. NE of NE, Sec. 36, J. H. Gibson Sur. ..... Spudded and shut down.

I. C. Barnett's No. 2 Callan, Sec. 1, 1,050 ft. from S, 1,190 ft. W ..... 2½ bbls. water hourly, 1,100,000 ft. gas, 1,268 ft.

MITCHELL COUNTY

California Co.'s No. 8 Foster, Lease 1, 1,100 ft. S and 990 ft. W NE cor., Sec. 6, Blk. 29, Twp. 1s, T.&P. R.R. Sur. ..... Drlg. 2,300 ft.

Gibson & Johnson's No. 2 Scott, 150 ft. N and 2,490 ft. W of SE cor., Sec. 7, Blk. 19, Lavaca Navigation Co. ..... Spudded and shut down 720 ft.

Magnolia Petroleum Co.'s No. 7 Mary Foster, 330 ft. from N and W line of Sec. 17, Blk. 29, Twp. 1s, T.&P.R.R. Sur. ..... Rig.

Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. ..... Rig.

Seiger's No. 1 Scott, C of NE of SW, Sec. 36, Blk. 17, S.P.R.R. Sur. ..... Shut down 730 ft.

Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur. ..... Drlg. 4,780 ft.

NOLAN COUNTY

Gibson & Johnson's No. 1 Bond, 1,320 ft. from N and 1,980 ft. from E of Sec. 42, Blk. 20, T.&P. Sur. ..... Running 6-in. casing 2,950 ft.

Phillips Pet. Co.'s No. 1 Plunkett, 330 ft. N and W of SE cor. NW, Sec. 66, Blk. 22, T.&P. Sur. ..... Drlg. 4,695 ft.

PECOS COUNTY

Amerada Pet. Corp.'s No. 1 University, 990 ft. from S, 2,310 ft. W, Sec. 13, Blk. 18, University Land ..... 3,000,000 ft. gas 991 ft.; resuming drilling 1,152 ft.

Arkansas Fuel Oil Co.'s No. 1-A University, 1,650 ft. from S and W of Sec. 32, Blk. 16 ..... Cleaned out to 1,043 ft.; 1,000,000 ft. gas 935 ft.

Artec Oil Co.'s No. 1 Gaddard, C of Sec. 19, Blk. 11, H.&G.N. Sur. ..... Location.

E. W. Bateman's No. 1 Cunningham, 330 ft. from S and W line of NE, Sec. 34, Blk. 11 ..... Drlg. 1,580 ft.

Black & Dittman's No. 1 Pecos Valley, 160 ft. from SW and SE lines, Sec. 34, Blk. 3, H.&T.C.R.R. Sur. ..... Shut down 500 ft.

Buell & Hagan's No. 1 Byrne, 990 ft. from N and 2,310 ft. from E of Sec. 54, Blk. 10, H.&G.N.R.R. Sur. ..... Show gas 1,325 ft.; show oil 1,325-49 ft.; drlg. 1,400 ft., making 1,500,000 ft. gas.

California Co.'s No. 6 Smith, Lease No. 1, 1,700 ft. N and 330 ft. W of SE cor., Sec. 37, Blk. 194, G.C. &S.F.R.R. Sur. ..... Drlg. 1,030 ft.

California Co.'s No. 2 Tippett, 2,016 ft. from S and 1,040 ft. from E of Sec. 2, D. F. Robertson Sur. ..... Temporarily abandoned.

Cardinal Oil Co.'s No. 1 Tippett, 330 ft. N and W of SE cor., Sec. 36, Blk. 12, H.&G.N.R.R. Sur. ..... Top salt 710 ft.; shut down 1,573 ft.; top lime 1,510 ft.

Cardinal Oil Co.'s No. 2 Toborg, 750 ft. from S and 150 ft. from E of W half of Sec. 539, A.&B. Sur. ..... Location.

Cardinal Oil Co.'s No. 3 Toborg, 714 ft. from E and 150 ft. from S of W half of Sec. 539 ..... Location.

Continental Oil Co.'s No. 2 University, 330 ft. S and 1,680 ft. E of NW cor. of Sec. 6, Blk. 17, University Land ..... Hole full water 1,460 ft.; oil and gas show 1,678 ft.; drlg. 1,880 ft.

Continental Oil Co.'s No. 6 University, 330 ft. S and 3,031 ft. E of NW cor. of Sec. 6, Blk. 17, University Land ..... Cellar.

E. W. Bateman et al's No. 1 Cordova, 3,490 ft. from N and 1,515 ft. from W, Sec. 29, Blk. 11, H.&G.N.R.R. Sur. ..... Shut down 1,725 ft.

Crosby Prod. & Royalty's No. 3 Smith, 330 ft. from S and W line, Sec. 24, Blk. 194 ..... Drlg. 1,210 ft.

Cosden Oil Co.'s No. 1 McDonald, 350 ft. from N and E of Sec. 1, H.E.&W.T. Sur. ..... Total depth 2,016 ft.

Cranfill & Reynolds' No. 1 Masterson, SW cor. Sec. 104, Blk. 10 ..... Top pay at 1,249 ft.; second pay 1,268 ft.; 18½ bbls. oil; deepened to 1,450 ft. without increase; total depth 1,495 ft.; pumping 30 bbls. daily.

Cowboy Evans' No. 1 Pecos Valley, 1,307 ft. from SE line, 907 ft. from SW line of Sec. 36, Blk. 3, H.&T.C.R.R. Sur. ..... Location.

Dixie Oil Co.'s No. 1 McKinzie, 3,300 ft. from N and 2,025 ft. from W of Sec. 15, Blk. 604, G.C.&S.F. ..... Shut down 140 ft.

Freeman et al's No. 1 Pecos Valley, 150 ft. from NW and SW of NE half of S, Sec. 36, Blk. 3, H.&T.C. Sur. ..... Increase in water 1,535 ft.; shut down 1,708 ft.

A. M. Griffith's No. 1 Ferrenbach et al, 2,112 ft. from W line, 1,320 ft. from S line, Sec. 9, Blk. 603, G.C.&S.F. Sur. ..... Shut down 1,285 ft.

Geyer-Frates' No. 1 White-Baker, 2,310 ft. from N and E line of Sec. 29, Blk. Z, T.C.R.R. Sur. ..... Spudding.

Harrison & Cromwell's No. 1 White-Baker, 2,310 ft. from S and E, Sec. 42, Blk. 11, H.&G.N.R.R. Sur. .... Oil show 822-27 ft.; fishing 1,615 ft.

Hussman Oil Co.'s No. 1 Esters, 960 ft. from N and 300 ft. E, Sec. 83, Blk. OW, T.M.R.R. Sur. ..... Shut down 425 ft.

Independent O. & G. Co.'s No. 1 Phelps, 150 ft. N and W of N half of NE, Sec. 26, Blk. 11, H.&G.N.R.R. Sur ..... Drlg. 2,075 ft.

J. L. Kennedy's No. 1 Roberts, C of Sec. 78, Blk. 3, T.&P.R.R. Sur. ..... Shut down 2,506 ft.

Kirby Pet. Co.'s No. 1 Stockton Cattle Co., 330 ft. from N and E, Sec. 2, T.C.R.R. Sur. ..... Shut down 733 ft.

Landreth Prod. Corp.'s No. 1-A University, 1,980 ft. from S line, 660 ft. from E line, Sec. 13, Blk. 18 ..... Completed Sept. 6 with 66,485,000 ft. gas from 950-52 ft.; drlg. 1,645 ft.

Landreth Prod. and Henshaw Bros.' No. 1-E University, 330 ft. N and W of SE cor. W half NE, Sec. 13, Blk. 18, University Land ..... Fishing 940 ft.

Landreth Prod. and Henshaw Bros.' No. 2-E University, 330 ft. S and E of NW cor. of W half of NE, Sec. 13, Blk. 18, University Land ..... Top salt 895 ft.; fishing 1,544 ft.

Landreth Prod. Corp. et al's No. 1-I University, 330 ft. from S and W of NE of NE, Sec. 24, Blk. 18 ..... Shut down 1,095 ft.; 2 bbls. oil hourly 960 ft.; preparing to pump.

Landreth Prod. and Henshaw Bros.' No. 3-F University, 330 ft. from N and E lines of SW Sec. 3, Blk. 16, University Land ..... Drlg. 350 ft.

Landreth Prod. and Henshaw Bros.' No. 2-I University, 330 ft. S and W of NE, Sec. 24, Blk. 18, University Land ..... Cellar.

Mauch & Kroger's No. 1 Holmes, Sec. 5, Blk. 178, T.C. Sur. ..... Shut down 1,510 ft.

Mazda Oil Co.'s No. 1 Cordova Union Land Co., 2,310 ft. from N and 990 ft. from E of Sec. 103, Blk. 11, H.&G.N. Sur. ..... Shut down 1,250 ft.

Merrick-Bristow's No. 1 Neville, 330 ft. from S and W, Sec. 42, Blk. 12, H.&G.N.R.R. Sur. ..... Top salt 645 ft.; shut down 1,670 ft.; will deepen.

R. E. Moore's No. 1 Arnold, 1,320 ft. from S and 660 ft. from E lines of Sec. 18, Blk. 1, H.&T.C.R.R. Sur. .... Show oil 1,216 ft.; show oil 1,408 ft.; pulling 8-in. casing; shut down 1,615 ft.

Mid-Kansas Oil & Gas Co.'s No. 8 M. A. Smith, 350 ft. N and 1,005 ft. W of NE cor., Sec. 21, Blk. 194, G.C.&S.F. Sur. ..... Bad hole 130 ft.

Moncrief's No. 1 Sullivan, 150 ft. E of C of SW, Sec. 68, Blk. 11, H.&G.N.R.R. Sur. ..... Drlg. 1,894 ft.; hole full sulphur water at 1,645 ft.

H. T. O'Neal's No. 1 Power, 2,640 ft. from N and 150 ft. from W, Sec. 1, Blk. 132, T.&St.L.R.R. Sur. ..... Shut down 200 ft.; moved material off.

J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S. 150 ft. from E, G.C.&S.F. Sur. ..... Fishing 875 ft.
J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Shut down 1,652 ft.
Pecos Crude Oil Pur. Co.'s No. 4 Pecos Valley, 770 ft. from SW and 1,320 ft. from SE of W, Sec. 22, Blk. 10, H.&G.N.R.R. Sur. ..... Spudded 95 ft. and shut down.
Perren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C.R.R. Sur. ..... Location.
M. M. Rowan's No. 1 University, NE, Sec. 25, Blk. 16 ... Total depth 2,490 ft.; plugged back 1,815 ft.
Phillips Pet. Co.'s No. 1 Byrne, 220 ft. out of NE cor. S 215 ac. Sec. 77, Blk. OW, University Land ..... Machine.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E of SE, Sec. 199, Blk. 3, I.&G.N. Sur. ..... Location.
Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ..... Shut down 362 ft.; waiting on casing.
Simms Pet. Co.'s No. 1 University, 1,650 ft. N and 330 ft. W of SE cor. Sec. 21, Blk. 19, University Land Spudding.
Skelly Oil Co.'s No. 1 Bowers, SW cor. N half SE, Sec. 31, Blk. 16 ..... Initial production 58 bbls. 1,649-50 ft.; total depth 1,671 ft.; swabbed 45 bbls. day; to plug back.
Southern Crude Oil Pur. Co.'s No. 1 McKenzie, 150 ft. from N and 635 ft. from E of Sec. 2, Blk. 10, G.C. &S.F.R.R. Sur. ..... Location.
Taylor-Link Oil Co.'s No. 6 University, 330 ft. from N and 330 ft. from E of W half of SE, Sec. 13, Blk. 18 Top pay 1,560 ft.; spraying 20 bbls. day and 12,000,000 ft. gas; shut down 1,730 ft.; increase in oil at 1,717-22 ft.; flowed 597 bbls. first 24 hrs.
Transcontinental Oil Co.'s No. 1 University ..... Drlg. 4,773 ft.
Transcontinental and Arkansas Nat'l Gas Co.'s No. 1 Matthews, 330 ft. from S, 1,060 ft. from E, Sec. 10, Blk. 194 ..... Topped lime 1,444 ft.; cem. 8-in. casing 1,447 ft.; 10 bbls. oil.
Transcontinental Oil Co.'s No. 1 Smith, 2,310 ft. from N and 1,060 ft. from E of Sec. 10, Blk. 194, G.C.&S.F. R.R. Sur. ..... Location.
Trees Oil Co.'s No. 3 Trees, 330 ft. from S and W of Sec. 90, Blk. 8, H.&G.N. Sur. ..... Drlg. 350 ft.
World Oil Co.'s No. 2 University, Sec. 31, Blk. 16, 330 ft. from N, 2,310 ft. E ..... 500,000 ft. gas 1,225-40 ft.; big flow oil 1,549 ft.; 8-in. casing set 1,500 ft.; hole full water 1,562-67 ft.; estimated 20 bbls. oil 1,549 ft.; drlg. ahead.
World Oil Co.'s No. 1-C University, 1,650 ft. from N, 990 ft. W, Sec. 7, Blk. 20, University Land ..... Drlg. 340 ft.; water 305-319 ft.

PRESIDIO COUNTY

Eastland Oil Co.'s No. 1 Tootle, C Sec. 17, Blk. 1, D.P. R.R. Sur. ..... Spudded; shut down.
T. P. Coal & Oil Co.'s No. 1 Bogel, 330 ft. S and W, Sec. 83, Blk. 8, G.H.&S.A. Sur. ..... Gas show 2,810 ft.; shut down 4,047 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor., Sec. 1, Blk. 2, University Land.. Top pay 2,903 ft.; 1,000 ft. fluid in hole; top pay 6,807 ft.; drlg. 8,210 ft.
Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ..... Showing oil and gas at 8,220 ft.; total depth 8,220 ft.; flowed an average of 207 bbls.
Texon Oil & Land Co.'s No. 2-B University, 4,655 ft. from S, 250 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 3,416 ft.
Texon Oil & Land Co.'s No. 3-B University, 2,240 ft. from S, 920 ft. from W, Sec. 36, Blk. 9 ..... Fishing 2,990 ft.
Thomas & Brann et al's No. 1 Hughes, C NE of Sec. 7, Blk. 1, T.C.R.R. Sur. ..... Top salt 1,085 ft.; shut down 3,020 ft.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 2,990 ft.
H. T. Hansford's No. 1 Williams, 150 ft. from S and W, Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.
Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W, Sec. 16, Blk. 59 ..... Drlg. 810 ft.
Southern Crude Oil Pur. Co.'s No. 1 Kloh-Rumsey, 2,310 ft. N and W SE cor., Sec. 23, Blk. 51 ..... Show oil 5,211-16 ft.; testing.
David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 ..... Fishing 5,658 ft.

RUNNELS COUNTY

Gibson & Johnson's No. 1 Johnson, 2,310 ft. N and 1,650 ft. W of SE cor., Sec. 150, E.T.R.R. Sur. ..... Spudding.
Gibson & Johnson's No. 2 Serratt, 2,310 ft. from S and 1,650 ft. from E of Sec. 150, E.T.R.R. Sur. ..... Derrick.
Gibson & Johnson's No. 1 Woods, Sec. 529, 2,600 ft. from S and 300 ft. from E, T. T. Williams Sur. ..... Drlg. 3,622 ft.
H. E. Lamar's No. 1 Long, 2,310 ft. N, 6,900 ft. E, Sec. 262 ..... Drlg. by bailer.
McLean's No. 1 Clayton, 150 ft. from N line, 270 ft. from W line of Sec. 133 ..... Shut down 1,185 ft.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW, Sec. 56, Blk. I, G.H.&S.A.R.R. Sur. ..... Drlg. 1,070 ft.
Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Fishing 5,715 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. ..... Drlg. 1,370 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 330 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Shut down 1,732 ft.
Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S. 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R.R. Sur. ..... Set 6-in. casing 3,595 ft.; salt water 3,660 ft.; drlg. 3,726 ft.
Cottingham & Briscoe's No. 1 Trees, C SE Sec. 147, Blk. 97 ..... Sulphur water 3,390 ft.; drlg. 3,394 ft.
I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C. Sur. ..... Spudded and shut down 300 ft
G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 276, Blk. 2, H.&T.C. Sur. ..... Shut down 4,325 ft. for 5-in. casing.
E. L. Smith Oil Co.'s No. 1 Moore, 1,320 ft. from S and W, Sec. 379, Blk. 97 ..... Top salt 750 ft.; encountered 500,000 ft. gas 1,510 ft.; oil show 2,215 ft.; resume drilling 2,231 ft.; 400 ft. fluid in hole of which about 1 bailer is oil; oil tested 32.3 gravity.

STERLING COUNTY

Sherwood B. Owen's No. 1 Tweedle, 1,980 ft. from N and 1,320 ft. from E of Sec. 10, Blk. T, T.&P. Sur. ..... Drlg. 2,200 ft.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Willson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Location.

TAYLOR COUNTY

Adams et al's No. 1 Lowe, 150 ft. from N and W of Sec. 19, League 120, Guadalupe Sur. ..... Top pay 2,383 ft.; total depth 2,390 ft.; flowed 100 bbls. oil in 24 hrs.
Condor Pet. Co.'s No. 1 Allen, C of NW, Sec. 220, Blk. 64, H.T.C.R.R. Sur. ..... Rig on ground.
John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; drlg. 5,350 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Drlg. 1,257 ft. in blue shale.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,000 ft.
Mrs. J. B. McGhee's No. 1 Sam Belt, C, Sec. 78, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.
Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. ..... Drlg. 1,075 ft.
Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 625 ft.

TERRY COUNTY

Kingsland Oil Prod. Co.'s No. 1 Brownfield, C NW SW SW, Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... Fishing bailer 5,080 ft.

TOM GREEN COUNTY

Cannon et al's No. 1 Rust, 990 ft. S, 990 ft. W of NE cor. of Sec. 745 ..... Location.
Ellis et al's No. 1 Lewis, 450 ft. S and 150 ft. E of SE cor. of J. W. Sur. in Albert Black Sur., Sec. 75 ..... Show oil 342 ft.; shut down 403 ft.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW, Sec. 1,628, E. H. Ringer ..... Fishing 2,447 ft.
E. W. Wiley et al's No. 1 Maier, 200 ft. from E, 110 ft. from N, Sec. 6, Blind Asylum Land ..... Shut down 250 ft.

UPTON COUNTY

Gulf Prod. Co.'s No. 3-B Hughes, 160 ft. N and 161 ft. W of most southerly SE cor. of their 200-ac. lease "B" out of Wm Teer Sur. ..... Rig.
Pure Oil Co.'s No. 3 Hughes, 150 ft. S and 767 ft. E of NW of their 300 ac., Sec. 4, Wm. Teer Sur. ..... Shut down 610 ft.
Pure Oil Co.'s No. 4 Hughes, Sec. 4, 330 ft. S and E SW cor., Snowden & McSweeney lease ..... Drlg. 1,975 ft.
Snowden & McSweeney's No. 3 Hughes, 330 ft. from S and W of 80-ac. lease, Sec. 4, Wm. Teer Sur. ..... Drlg. 290 ft.
Texon and Continental's No. 2 Sherk, 430 ft. from N line, 330 ft. from W line, Sec. 35, Blk. 1 ..... Top salt 1,015 ft.; drlg. 2,500 ft.
T. P. Coal & Oil Co.'s No. 1-D Lane, 430 ft. from S, 330 ft. W, Sec. 36, Blk. 1 ..... Top lime 2,225 ft.; top pay 2,335 ft.; swabbed 87 bbls. in 6 hrs.; total depth 2,419 ft.
T. P. Coal & Oil Co.'s No. 1 Reese, 330 ft. from N and E line, Sec. 2, Blk. 3 ..... Building rig.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE, Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,850 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,700 ft. gas; shut down 5,498 ft.
Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 44, Blk. D-8, E.L.&R.R. Sur... Show oil 1,535 ft.; shut down 1,675 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE, Sec. 47, Blk. Y.. Shut down 4,009 ft.

WARD COUNTY

Alpine Oil & Gas Co.'s No. 1 Dakan, 228 ft. from NE and 150 ft. from SE line, Tract 8, Sec. 11, Blk. 5, H.&T.C. Sur. ..... Drlg. 1,020 ft.
E. J. Anderson's No. 1 Johnson, 150 ft. N, 346 ft. E, Sec. 7, Blk. 33, H.&T.C.R.R. Sur. ..... Drlg. 1,310 ft. in salt; top salt 515 ft.
Atlantic et al's No. 1 Dorr, 1,730 ft. S, 990 ft. W, Sec. 2, J. Howe Sur. ..... Shut down 1,160 ft.
Atlantic and Delmar's No. 7 Hayzlett, 1,650 ft. from NE and NW of Sec. 17, Blk. 5 ..... Location.
Fugler et al's No. 1 Grand Falls Townsite, 185 ft. SE of NW line and 500 ft. NE of NE, Sec. 7, Blk. 32, H.&T.C. Sur., located Sec. 11, Blk. 5, H.&T.C. Sur. .... Drlg. 1,745 ft.
Grand Falls Oil Co.'s No. 1 Boogher-Holden, 2,598 ft. S, 4,026 ft. E, Sec. 11, Blk. 5, H.&T.C.R.R. Sur. ..... Shut down 800 ft.
Gulf Prod. Co.'s No. 3 Hutchins, 2,310 ft. from N and 330 ft. from W, Sec. 1, Blk. F, G.M.M.B.&A. Sur. .... Top salt 1,935 ft.; top brown lime 2,310 ft.; cem. 8¼-in. casing 2,587 ft.
Gulf Prod. Co.'s No. 7 O'Brien, 330 ft. S and W, Sec. 22, Blk. F, G.M.M.B.&A. Sur. ..... 3,000 ft. fluid in hole, 1 bbls. water; no increase in oil; drlg. 3,116 ft.; straightreaming 3,055 ft.
Gulf Prod Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW, Sec. 18, Blk. 5, H.&T.C. Sur. .. Show gas 1,960-70 ft.; filling up with sulphur water 2,520-27 ft.; shut down 3,000 ft. salt water at 2,545 ft.
F. E. E. et al's No. 1 Wristen, 990 ft. from S and W lines of Sec. 26, Blk. B-28 ..... Top salt 700 ft.; shut down 2,770 ft.
E. B. Lovelace et al's No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 162, Blk. 34, H.&T.C.R.R. Sur. ..... Show gas 2,806-09 ft.; fishing 2,785 ft.
Mid-Continental's No. 1 Conway, 2,316 ft. E, 922 ft. S, Sec. 23, Blk. 29, Public School Land ..... Drlg. 2,185 ft.
Penn and Atlantic's No. 2 Bennett, 2,310 ft. S line, 1,650 ft. W line, Sec. 16, Blk. 34, H.&T.C.R.R. Sur. ..... Drlg. 1,705 ft.
Penn and Atlantic's No. 1 Cooper, 330 ft. from NE and 990 ft. from NW of Sec. 43, Blk. 34, H.&T.C. Sur. ... Drlg. 2,097 ft.
Shell Pet. Corp.'s No. 1 Owens, located NE cor. of Sec. 16, Blk. 5, H.&T.C.R.R. Sur. ..... Shut down 3,130 ft.; top pay 2,886-93 ft.; increase at 2,909 ft. and 3,023-32 ft.; shot 90 quarts from 2,473-93 ft.; increase in oil 3,023-32 ft.; testing gray lime at 3,130 ft.; swabbed 33 bbls. first 24 hrs.
Shipley et al's No. 4 Hayzlett, 2,050 ft. NW of SE and 2,420 ft. NE of SW line of Sec. 17, Blk. 5, H.&T.C. R.R. Sur. ..... Top salt 720 ft.; shut down 2,546 ft.; plugged back 2,538 ft.; shot 90 qts. from 2,473-93 ft.
Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 ..... Rig.
Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 ..... Fishing 385 ft.
Sturm & Paine's No. 1 Cummins, 748 ft. from NE and 155 ft. from NW of Sec. 7, Blk. 32, H.&T.C.R.R. Sur... Location.
Sun Oil Co.'s No. 2 Sealy, 330 ft. from N and E of Sec. 88, Blk. F, G.M.M.B.&A. Sur. ..... Shut down 1,350 ft.

WINKLER COUNTY

A. W. Philip's No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land ..... Top salt 1,300 ft.; shut down 2,832 ft.; show oil 2,775-85 ft.
Bashara et al's No. 2 Bashara, 990 ft. from S, 2,310 ft. from E, Sec. 17, Blk. B-3, Public School Land ..... Top brown lime 2,306 ft.; top white lime 3,008 ft.; total depth 3,010 ft.; 40,000,000 ft. gas.
Cinderella Syndicate's No. 1 Hendricks, 330 ft. N, 1,650 ft. W, Sec. 42, Blk. 26, Public School Land ..... Total depth 150 ft.; rig.
Humble Oil & Ref. Co.'s No. 2 Walton, 2,310 ft. from N and W of Sec. 47, Blk. 26 ..... Top lime 2,262 ft.; top salt 960 ft.; cem. 10-in. casing 2,270 ft.; coring 2,721 ft.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ..... Top brown lime 2,510 ft.; shut down 3,685 ft.
Sun Oil Co.'s No. 1 Sealy, 2,310 ft. N line, 330 ft. from W line, Sec. 52, Blk. F, G.M.M.B.&A. Sur. ..... Drlg. 1,090 ft., red rock.

Efficient Oil Heating Equipment

The Foster Wheeler oil heating equipment, here shown, is installed in connection with a Dubbs cracking process.

The heating unit consists of a Foster tube still and a three section Foster air preheater, complete with ducts, fan and stack.

This unit has the capacity to heat a total thruput of 7200 barrels per day to an outlet temperature of 940 deg. F. Flue gases in passing through the 2360 sq. ft. air preheater (shown in the foreground) are cooled to 627 deg. F. and air for combustion is heated to a temperature of 491 deg. F. This gives an excellent operating performance even with the high temperature incoming oil.

FOSTER WHEELER CORPORATION
165 Broadway, New York, N. Y.
Branches in Principal Oil Centers

Foreign Associates:
Societe Anonyme Foster Wheeler; Paris, France.
Foster Wheeler Limited; London, England.
Foster Wheeler Limited; Toronto-Montreal-Vancouver, Canada.

FOSTER WHEELER

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 54)

FRANKLIN PARISH

Davis et als' No. 1 Moore, 600 ft. W, 200 ft. S. NE cor. Sec. 12-11-6 ..... S.D. 1,430 ft.
Franklin Oil & Gas Co.'s No. 1 T. J. O'Brien, 300 ft. N. 300 ft. E, SW cor. NW Sec. 17-15-9 ..... Cmtd. 15½-in. 208 ft.

MOREHOUSE PARISH

J. P. White's No. 1 Chess-Wymond, Sec. 32-19-6 ..... Tested S.W. 3,035 ft.; W.O.

NATCHITOCHES PARISH

S. D. McDaniel's No. 2 Clark & Morse, 300 ft. E. 350 ft. N. C. Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 8 ft.; S.D. for orders; T.D. 2,536 ft.
Nichols & Wilder's No. 1 Clark, 150 ft. W. 250 ft. N. SE cor. Sec. 10-10-8 ..... S.D. 2,110 ft.
Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9 ..... D.S. test 4-ft. sand 1,167-71 ft; dry; drlg. 1,240 ft.

OUACHITA PARISH

J. L. Bullock, trustee's No. 1 West Va. Lbr. Co. N½ NE. Sec. 25-18-5 ..... S.D. on account of high wtr; T.D. 2,700 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E. SW cor. Sec. 9-5n-2e ..... S.D. 2,530 ft.

RED RIVER PARISH

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. S. NW cor. Sec. 32-14-10 ..... Drlg. 1,536 ft.
Eylers O. & G. Co.'s No. 1 Johnson, 500 ft. N, 500 ft. W, SE cor. SW Sec. 17-12-10 ..... S.D. 2,800 ft.
LeGrande et als' No. 1 Sample, Sec. 11-14-11 ..... Rigging up.
D. H. Riddick's No. 1 Johnson, 500 ft. N, 500 ft. W, SE cor. Sec. 17-12-10 ..... S.D. 1,050 ft.; laying gas line.

RICHLAND PARISH

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 f.. E. SW cor Section 13-17-5 ..... Derrick.
Austin & McDonald's No. 2 Millsaps, SW cor. Sec. 17-17-6 Waiting orders; T.D. 2,679 ft.
Austin & McDonald's No. 3 Millsaps, 1,980 ft. S, 660 ft. E, NW cor. Sec. 16-17-6 ..... Tested S.W.; W.O. 2,477 ft.
Austin & McDonald's No. 4 Millsaps, NW cor. Sec. 16-17-6 Location.
Austin & McDonald's No. 5 Millsaps, 2,640 ft. N, 1,320 ft. W, SE cor. Sec. 8-17-6 ..... Derrick.
W. C. Feezel's No. 1 Landrum, 320 ft. N, 4,573 ft. E. SW cor. Sec. 6-16-7 ..... Derrick.
Industrial Gas Co.'s No. 1 T. R. Hodge, 3,289 ft. E, L. 320 ft. S, C. Sec. 7-16-7 ..... D.S. test 2,666 ft; dry; drlg. hard rock 2,728 ft.
Industrial Gas Co.'s No. 1 A. T. Davidson, 1,356 ft. S, 916 ft. E, NW cor. Sec. 6-16-7 ..... D.S. test 2,749 ft; S.W.; twisted off; fishing D.S.; T.D. 2,749 ft.
Industrial Gas Co.'s No. 3 Ruston Drlg. Co., 1,980 ft. S, 1,955 ft. E, NW cor. Sec. 7-16-7 ..... Drlg. igneous rock 2,636 ft.
Palmer Corp.'s No. 2 Miles, 723 ft. E. 660 ft. S, NW cor. NE, Sec. 12-17-6 ..... Cmtd. 6-in. 2,315 ft.
Richland O. & G. Co.'s No. 1 Singleterry, 1,980 ft. N. 660 ft. W, SE cor., Sec. 20-18-7 ..... Cmtd. 9-in. csg. 970 ft.
Shreveport Contractors, Inc.'s No. 1 Buie, 600 ft. E. 400 ft. N, SW cor. Sec. 17-15-7 ..... S.D.; shale and boulders 2,527 ft.
Triangle Drlg. Co. and Woodley Pet. Co.'s No. 1 G. L. Cumpton, 660 ft. S, 660 ft. W, NE cor. NW SE. Sec. 16-17-7 ..... Tested dry 2,492 ft; S.W. 2,529 ft; S.D; repairing rig.
Woodley Pet. Co.'s No. 1 Buie, 660 ft. N, 1,980 ft. E. SW cor. Sec. 32-18-7 ..... Drlg. 2,587 ft.

SABINE PARISH

G. M. LeGrand's No. 1 A. C. Haley, 1,020 f.., 3,300 ft. E, NW cor. Sec. 6-7-12 ..... Cmtd. 6⅝-in. csg. 2,136 ft.
D. H. Riddick's No. 1 Scretchfield, 400 ft. E. 400 ft. N, SW cor. NW SE Sec. 18-9-12 ..... Drlg. chalk 2,105 ft.

UNION PARISH

Fred Stovall's No. 1 Stovall, 1,820 ft. E. 350 ft. N. SW cor. Sec. 32-23-4 ..... Rig up.

WEBSTER PARISH

F. M. Fuller's No. 1 Monzingo, 200 ft. N, 200 ft. W, SE cor. Sec. 27-18-8 ..... Began drlg. Nov. 10; cm d. 10-in at 62 ft.
Paul C. Warren et als' No. 1 Martin, 305 ft. N. 212 ft. E. SW cor. Sec. 20-20-9 ..... Show gas top Nacatoch; 1,759 ft. S.D.

WEST CARROLL PARISH

Palmer Corp.'s No. 1-A Marston, 1,320 ft. S, 89 deg., 35 min. W, 1,320 ft. of SE cor., Sec. 11-19-10 ..... Cmtd. 12½-in. 166 ft; reaming to set 9-in. at 865 ft.

ARKANSAS

ASHLEY COUNTY

Ark. Fuel Oil Co.'s No. 1 Crossett Lbr. Co., 330 ft. E. 330 ft. S, NW cor. Sec. 1-19-7 ..... D.S. test 2,799-2,807 ft; S.W; coring gummy shale 2,840 ft.

CLARK COUNTY

Wm. Henry, trustee's No. 1 Clark, Sec. 34-9-21 ..... S.D. 1,200 ft.

CLEBURN COUNTY

Cosden Oil Co.'s of Ark.'s No. 1 Donophan, 100 ft. S. 660 ft. E. NW cor. SW SE Sec. 19-9-10 ..... Drlg. 750 ft.
Donnelly-Craver et als' No. 1 Doniphan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... Began drlg. Dec. 30; drlg.

COLUMBIA COUNTY

Parker and others' No. 1 Franks, 330 ft. S, 330 ft. W C Sec. 25-19-22 ..... S.D. 2,835 ft.
Williams et als' No. 1 Fullenwider, 200 ft. N, 600 ft. E. SW cor. NE SE, Sec. 12-17-22 ..... Location.

DREW COUNTY

McClintock & Goodka's No. 1 Ogles, 920 ft. W, 400 ft. S. NE cor., Sec. 35-13-5 ..... Drlg. 1,810 ft.

FAULKNER COUNTY

Gold Creek Oil & Gas Co.'s No. 2 Stermer, SE cor. NW SE Sec. 17-4-13 ..... Began drlg. Dec. 12.

GARLAND COUNTY

Givens et als' No. 1 Garrett, 660 ft. S, 660 ft. W, C Sec. 1-3-19 ..... Drlg. sand 3,394 ft.

GRANT COUNTY

Jones & Watkins' No. 1 Meek, Sec. 5-4-11 ..... S.D. 1,400 ft.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 ..... Drlg. 2,105 ft.
McDonald & Shaw's No. 1 W. E. Black, 240 ft. N, 450 ft. W, SE cor. SE NE Sec. 12-13-28 ..... S.D. 1,805 ft.

LOGAN COUNTY

M. W. Greeson's No. 1 C. S. Parke, 330 ft. N, 330 ft. W. SE cor. Sec. 21-8-24 ..... Location.

MADISON COUNTY

Phillips Pet. Co. and F. S. Craver's No. 1, C Sec. 11-14-28. Tested 250,000 ft. gas 63 ft; S.D

OUACHITA COUNTY

Artex Oil Co.'s No. 1 M. V. Smith, 330 ft. S. 330 ft. E, NW cor. SE NW, Sec. 31-15-17 ..... Arranging D.S. test; sandy shale 2,876-86 ft; tested dry 2,840 ft.
Copenhaven et als' No. 1 Warnick, Sec. 2-15-17 ..... S.D. 2,190 ft.
Kobler & Erickson's No. 1 Rumph & Tyson, 300 ft. N. 300 ft. W, SE cor. Sec. 13-15-15 ..... Set 10-in. at 98 ft.
C. H. McDonald's No. 1 Fogle, Sec. 13-14-16 ..... S.D. 2,301 ft.; W.O.
A. P. Smith et als' No. 1 Reynolds, C SW NW, Sec. 21-14-17 ..... Drlg. 835 ft.
United Carbon Co's No. 2 Puckett, 660 ft. N, 660 ft. E, SW cor. SW Sec. 15-19-5 ..... Drlg. 680 ft.

PIKE COUNTY

Theo. Davis, trustee's No. 1 Ruth Wilson, 200 ft. S, 200 ft. W. NE cor., Sec. 25-5-26 ..... S.D.; funds; T.D. 718 ft.

POPE COUNTY

Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE, Sec. 13-9-19 ..... Tested S.W. 1,720 ft; drlg. 1,800 ft.

PRAIRIE COUNTY

Transcontinental Oil Co.'s No. 1 Louis Novak, 330 ft. E. 330 ft. N, SW cor. SW NE, Sec. 36-2n-6 ..... Drlg. 2,430 ft.

SABINE PARISH

Bridges-Clark Oil Co.'s No. 1 J. W. Guy, 300 ft. N, 300 ft. E, SW cor., Sec. 33-10-12 ..... Rigging up.

ST. FRANCIS COUNTY

Brownlee Drlg. Co.'s No. 1 Whitted, 110 ft. N, 110 ft. E, SW cor. SE NW Sec. 28-4-1 ..... S.D.; funds, 300 ft.

UNION COUNTY

Alcal Oil Corp.'s No. 1 J. A. Haney, 660 ft. W, 300 ft. S, NE cor. SW SE, Sec. 1-17-16 ..... Began drlg. Jan. 1; cmtd. 10-in. 121 ft.
Bredham and others' No. 1 Craig, SW cor. NW NE Sec. 6-18-15 ..... Cmtd. 6-in. 2,079 ft.
W. M. Coates, trustee's No. 1 McDuffie, Sec. 32-19-17 .. Cored gummy shale 4,238 ft.
S. Y. Dorfman's No. 1 Simmons, 150 ft. N, 150 ft. E, NW SW, Sec. 13-16-15 ..... Tested S.W. 2,061 ft; S.D; W.O. 2,081 ft.
O. W. Estes' No. 1 Felsenthal, 330 ft. S. 330 ft. W, NE cor. NE NW Sec. 2-18-15 ..... S.D.; W.O. 125 ft. oil and S.W. in hole; T.D. 2,191 ft.
O. W. Estes' No. 1 Telford, 320 ft. S, 320 ft. E, NW cor. SW, Sec. 35-17-14 ..... C.O.; 800 ft. oil 2,230 ft.
Oil Well Corp.'s No. 1 Union Sawmill, 150 ft. S, 150 ft. E, NW cor., Sec. 10-19-14 ..... Coring 2,150 ft.
Stark et als' No. 1 Ainsworth, NE cor. NW NE NE, Sec. 8-19-16 ..... S.D. for fuel 2,090 ft.

VAN BUREN COUNTY

Glenn Cole et als. trustee's No. 1 Scanlan, 200 ft. S, 200 ft. W, NE cor. SE NW Sec. 5-19-13 ..... S.D. 50 ft.

WASHINGTON COUNTY

O'Hara & Shetterly's No. 1 Boyd, SE cor. SE NE. Sec 12-16-32 ..... Spudded Sept. 1928; S.D. 140 ft. resumed drlg. Aug. 25; U.R. T.D. 150 ft.
C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... Trying to kill wtr. flow 2,150 ft.
Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32 ..... S.D. 1,500 ft.

WHITE COUNTY

Letona Synd.'s No. 1 Letona, SE cor. NW SW Sec. 35-9-8 Cmtng. 5 3/16-in. 3,500 ft; S.D.

EAST TEXAS

CAMP COUNTY

Rogers et als' No. 1 Enfelt, R. M. Montgomery Sur..... Tested dry 1,870 ft.; S.D.. 1,920 ft

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossier, E. Hughhart Sur..... Drlg. 2,050 ft.
Shad Harper's No. 1 W. R. Garland, J. Wagley Sur..... S.D. 1,862 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edward Dean Sur ... S.D. 2,000 ft.

SHELBY COUNTY

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur ... S.D. for orders 3,004 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews SE cor. Sec. 14-2s-7e Jarring out 6-in. to reset at 2,480 ft.; T.D. 2,735 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor. Sec. 20-13-3 ..... S.D; quicksand 1,240 ft.

HINDS COUNTY

Harry Gerson's No. 1 Edward House, Blk. 16, West Jackson Subd., City of Jackson, in Twp. 5n, Range 1e ..... Rig up.
Oscar Brown's No. 1 Riverside (formerly Hennessee et als') SE cor. SE SW Sec. 23-16-5 ..... Set 12½-in. 30 ft.; S.D. 1,050 ft
Love et als' No. 1 Mayes, Sec. 2-5-1e ..... Cmtd. 10-in. 735 ft.
Mrs. Reeder et als' No. 1 State, SE cor. NW NW Sec. 25-6-1e ..... S.D. 2,895 ft.

HUMPHREYS COUNTY

E. C. Steele et als' No. 1 C. B. Box, SE cor. SE NE Sec. 25-14-4w ..... Set 12½-in. 60 ft.; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E. NW cor. NE Sec. 2-7-16 ..... Set 8¼-in. at 2,792 ft; T.D. 2,861 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18 ..... S.D. 2,696 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-6-14 ..... Derrick.

LAFAYETTE COUNTY

Banks-Goode et als' No. 1 May, 113½ rods S, 26 rods E. NW cor. SW Sec. 22-10-1w ..... Derrick.

LINCOLN COUNTY

La.-Miss Oil Co.'s No. 1 Pat Case, NE NE Sec. 21-8-6 Drlg. 2,060 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... Drlg. sand showing little gas; T. D. 2,858 ft.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Running csg; T.D. 2,260 ft.
Park Bowser et als' No. 1 Cowart, second hole, Sec. 2-12-19 ..... S.D. 30 ft.

RANKIN COUNTY

Home Oil Prod. Co.'s No. 1 E. P. Rainey, NW NW Sec. 13-5-1e ..... Claim show gas 2,912 ft.; recmtd. 10-in. casing for test.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-5 ..... S.D. 2,395 ft.

YALOBUSHA COUNTY

Phillip Bros.' No. 1 James, Sec. 20-11-5 ..... Coring 3,568 ft.
Carter Oil Co. and J. D. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, C Sec. 14-11-4 ..... Drlg. sand and shale 1,750 ft.

YAZOO COUNTY

Amerada Pet. Co.'s No. 1 Doherty, SW SW Sec. 24-12-2 Rigging up.

TENNESSEE

DECATUR COUNTY

Chester County Oil Co.'s No. 1 Montgomery ..... Cmtd. 6-in. 1,040 ft.; drlg. hard gray lime 1,165 ft.

ALABAMA

LAMAR COUNTY

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... Cmtd. 4¾-in. 1,660 ft; drlg. sandy shale 1,720 ft.

MARION COUNTY

Hobson and others' No. 1 John Clark, SE Sec. 29-11-14 Drk. pattern.

SUMTER COUNTY

B. W. Bates' No. 1 fee, Sec. 3-18-1 ..... U.R. surface csg. at 300 ft.; to set 6-in.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D.; S.W. flow at 1,450 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... Drlg. 760 ft.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 57)

G. R. McIntire's No. 1 J. G. Towns in the I. Weldon Survey, 4900 ft. to NE line, 1350 ft. to SE line of Survey ..... T. D. 2,630 ft. in chalk; to resume drilling.
W. H. Harper's No. 3 Thomas, J. Roberts Sur..... Fishing for pipe.

DE WITT COUNTY

Gibson & McIntyre's No. 1 William Van Roeder..... T. D. 1,480 ft.; shut down.
F. P. Zoch's No. 1 Steinman, John Garelli Sur., 976 ft. from SW line, 1,797 ft. from NW line..... T. D. 1,800 ft.; drlg. in shale.
M. T. Roe's No. 1 Leinhardt..... T. D. 1,750 ft.; shut down after testing sand at this depth.

DIMMIT COUNTY

Texas Fuel Gas Co.'s No. 1 City Nat'l Bank (Laxon)..... T. D. 1,825 ft.; abandoned; salt water.

Texas Fuel Gas Co.'s No. 1 Laxon, Sur. 653, 5 miles SW Carrizo Springs ..... T. D. 1,575 ft.; abandoned in gray shale.

DUVAL COUNTY

National Oil Co.'s No. 2 Ball, Agua Poquita Sur., Blk. 3.. Drlg. 2,495 ft. in sandy shale.
F. P. Zoch's No. 1 King, Blk. 25, Howman Smith Subd., W. R. King ranch, Dugo Hinijosa grant, 660 ft. N line, 660 ft. E line ..... Rigging up.
Southern Oil Co.'s No. 1 Welder Wood, Sur. 215..... T. D. 750 ft.; standing, waiting on water.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlaw..... Shut down 3,000 ft. awaiting orders; expect to drill deeper.

FRIO COUNTY

Frank B. LeFeure's No. 1 H. W. and R. L. Eschenburg, Edward Gallagher Sur. No. 789, 3,980 ft. W of SE cor. of Edward Gallagher Sur. No. 788 and 1,320 ft. S of N line of Edward Gallagher Sur. No. 789..... Location.

GOLIAD COUNTY

Compton Oil Co.'s No. 1 Fromme, Dexter Sur..... Standing.
Wm. F. Morgan's No. 1 Geo. Ray in Pedro Trevano Survey, 150 ft. from SE & NW line of Geo. Ray 627-a tract ..... Moving in rig.
Union Prod. Co.'s No. 1 Lucas, Juan Moya Delgado Sur. ..... Drlg. shale 3,325 ft.

GONZALES COUNTY

Acme Oil & Royalty Corp.'s No. 1 Weber, Thomas Wright Sur. ..... T. D. 1,595 ft. (corrected depth); drlg. in sandy shale.
Joe Bruner's No. 1 R. D. & J. C. Miller in David J. Kent Sur. 3040 feet N line, 200 ft. E line ..... T. D. 3,490 ft.; shut down.
Adams & Lyles' No. 1 Jackson Sur..... Started drilling; corrected.
Linderman Brothers' No. 2 F. H. Frampton, in Richard Heath Sur. ..... errick.
Finnell & Elam's No. 1 Robinson, Liverpool Sur..... T. D. 1,720 ft.; shut down.
United North & South's No. 1 J. A. Kerr, in James Bowman Sur., 150 ft. S of CNL of tract, 11 miles W from Waelder..... Drlg. in marl at 4,880 ft.; will carry to Edwards.
United North & South Dev. Co.'s No. 1 J. E. Preston 120 acres, John Oetkins Sur., 1,350 ft. to S line, 750 ft. of W line..... T. D. 4,380 ft.; drlg. in sandy lime.
Cullen & West's No. 1 E. Menking, Blk. 24, 150 ft. to N and 450 ft. to E line of Blk. 24, 14,050 ft. to NW and NE line of Sur..... T. D. 3,000 ft.; contract depth; shut down.
A. G. Keiffer's No. 1 B. B. Dix..... Drlg. in Taylor marl 2,800 ft.; drill stem stuck.

GUADALUPE COUNTY

Shell Petroleum Corp.'s No. 1 Denmann, Jose de la Baume Sur. ..... T. D. 3,600 ft. in Edwards lime; showed sulphur water.
Grayburg Oil Co.'s No. 1 Wells, Jose La Baume..... T. D. 3,902 ft.; moving in heavier rig.
Fagenkopf & Kennon's No. 1 Haim, Joseph Kent Sur., 5 miles E of Seguin..... T. D. 2,028 ft.; drlg. in Edwards; dry.
Adams-Lyles-Walton's No. 1 Zobaroski, in James D. Clements Sur. ..... T. D. 2,718 ft; Edwards; abandoned.

HAYS COUNTY

E. A. Bucklin's No. 1 A. Elsner..... T. D. 1,800 ft.; drlg.
John H. Foster, Trustee, No. 2 W. G. Barber, 7 miles SE of Buda ..... T. D. 671 ft.; shut down.

JACKSON COUNTY

Wright Brothers' No. 7 Drushell..... Standing 3,375 ft.

JIM HOGG COUNTY

Deep Rock Oil Co.'s No. 1 Kelsey..... Standing 2,582 ft.
L. M. Holden's No. 4 Jones, 1,320 ft. to N line, 1,320 ft. to E line of 160 acres out of Share 5 "A," Dego Hinojosa grant ..... Standing 42 ft.

JIM WELLS COUNTY

E. W. Ogden's No. 1 G. Farris, M. Perez Sur..... T. D. 2,615 ft.; standing.

KARNES COUNTY

Ruby & Claypool's No. 1 Tom, V. Zepeda Sur., 850 ft. N line, 1,600 ft. E line..... Shut down in shale at 1,338 ft.
Benedum-Trees' No. 1 S. E. Crews, Britton Odem Sur.... T. D. 4,550 ft.; shut down.
Hurador Oil Co.'s No. 1 W. E. Porter..... T. D. 3,175 ft.; shut down.

KERR COUNTY

L. R. Page and associates' No. 1 Real..... T. D. 4,720 ft.; dry and abandoned in Ellenberger lime.
D. B. Mascho's No. 1 J. L. Love, C.C.S.D.&R.G.N.G. Sur., Sec. 1,594, 5,280 ft. to N line, 1,000 ft. to W line..... Water well completed; heavy duty cable tool rig on ground (first reported as O. E. Tunstill No. 1 Love Ranch).

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur..... T. D. 630 ft.; installed heavier rig (cable tools); report showing.
Sterling's No. 1 Willie Werner, 2 miles NW from Borgett No. 1 Haag..... T. D. 830 ft.; fishing (cable tools); 110 ft. oil in hole.

KLEBERG COUNTY

Bowen-Sarles' No. 1 Robert H. Simmons, Sec. 7, King Subd., 3 miles W from Ricardo..... T. D. 415 ft.; shut down in Caliche.

KINNEY COUNTY

Lloyd Oil Co.'s No. 1 G. B. Moore, Sur. 117..... T. D. 3,000 ft.; producing sulphur water.
Mardon Oil Co.'s No. 2 Jim Clamp, in the John Winters Sur. No. 346, near No. 1..... Moving in cable tools

LEE COUNTY

Byrd et al's No. 1 H. L. Bastle, 1,200 ft. N and 1,000 ft. E of 80-ac. tract of Wm. Johnson ..... Drlg. 3,000 ft.
Texas-Louisiana Corp. Carbon's No. 1 Bryan, in the S. F. Austin Sur., 1,200 ft. N and W of 1,200-ac. farm ..... Shut down 3,120 ft.
Todor Oil Corp.'s No. 1 H. Zsesch, in the J. Meeks Sur., 150 ft. N and 900 ft. W of S. Meeks Sur. ..... Shut down 2,050 ft.

LIVE OAK COUNTY

O'Neil & Catlett No. 1 Smith, 900 ft. SW line, 150 ft. NW line ..... T. D. 3,500 ft.; stdg. at contract depth; to deepen.
Dr. J. K. Rowan Co.'s No. 1 Lynne Ranch, 171 ft. W of George West..... Location.
Simmons Oil Co.'s No. 1 Richard Coquat, in James C. Hill Sur., 2,250 ft. to S line, 1,750 ft. to E line, 7 miles NE of Oakville..... T. D. 1,806 ft.; sand at 1,790-1,806 ft.; cored; salt water and gas showing.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 4 J. M. Chittim..... T. D. 6,080 ft.; drlg.
Rycade Oil Corp.'s No. 5 Chittim..... T. D. 3,380 ft.; gray lime.
Rycade Oil Corp.'s No. 3 Chittim, Blk. 7, Sur. 116, H.& G.N., 175 ft. N of No. 1, 10 ft. W, 255 ft. S line ..... T. D. 6,349 ft.; B. limestone.
The Texas Company, 5 miles west Darling Switch..... T. D. 4,792 ft.; abandoned; salt water.

MEDINA COUNTY

Pat Armstrong's No. 1 C. W. Butts in George C. Hanson Sur. ..... T. D. 1,300 ft.; reached contract depth.
Pan American Pet. Co.'s No. 1 Harrison, Sur. 799, 15 mi S from Hondo ..... Rigging up.
Donaldson Oil & Dev. Co.'s No. 2 Adams Co., James Hillemmeyer No. 25 Sur., 500 ft. to E line of survey, 150 ft. to S line of N half of survey..... Derrick timbers on ground.
T. N. T. Drilling Co.'s No. 1 V. Mangold, I. S. Palmer Sur. No. 20, SE cor., 1 mile from Noonan..... T. D. 1,380 ft.; drlg. in limy marl.
Pure Oil Co.'s No. 1 Nick F. Fahn in Amos Hudson survey No. 587 near NW line of survey..... Reported to be core test.
Cecil Switzer's No. 1 Zerr, 6 miles west of Hondo..... T. D. 3,710 ft.; fishing for tools.
R. C. Hill's No. 1 A. Wuezbach, G. Areola Sur., 500 ft. E line, 600 ft. S line..... Location.

MILAM COUNTY

Service Oil & Gas Co.'s No. 1 Muldrow, L. Taylor Sur., SE cor. ..... Location.
Hill & Bonwell's No. 1 B. Booker, James Welch Sur..... Fishing 2,020 ft.
Lloyd Oil Corp.'s No. 1 San Clement, Fokes Sur..... Spudded in.
A. H. Wray's No. 1 D. D. Fowler..... T. D. 1,688 ft.; sidetracked 360 ft. of drill pipe lost in hole; now drlg.

McMULLEN COUNTY

Cowboys Oil Co.'s No. 1 Shiner, H. M. Brewer Sur..... T. D. 2,280 ft.; shut down.

NUECES COUNTY

H. Grimm et al's No. 1 A. R. Roberts, Blk. 79, Winter Vegt. Garden Subd., 6 miles NW of Robstown, 12 miles NE Agua Dulce Field..... T. D. 2,300 ft.; drlg. in shale.

SAN PATRICIO COUNTY

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith in J. C. White Sur., 690 ft. to N line, 350 ft. to E line..... T. D. 2,252 ft.; shut down.

STARR COUNTY

Adams, Scanlon, Scanlon & Wright's No. 1 Margo, Por. 71, Jurisdiction of Mier, 1,921 ft. W line, 430 ft. N line ..... Standing at 30 ft.
Smith & Adams' No. 1 Welch, Pedernal Sur..... Drlg. 631 ft.; set 8-in. csg. at 440 ft.

UVALDE COUNTY

Waldrop & Welch's No. 1 H. S. Benson, 2 miles NW of Uvalde ..... T. D. 700 ft.; drlg. in Edwards.
Waldrop & Welch's No. 1 Edmonds, 2 miles SE of No. 1 Benson ..... T. D. 600 ft.; drlg.
Phantom Oil Co.'s No. 1 Claudt, Sur. 661..... Building derrick.

WILLACY COUNTY

Weimer—Richardson's No. 1 Elmore..... T. D. 1,860 ft.; shut down in gumbo.

WILLIAMSON COUNTY

Harlem et al's No. 1 H. H. Stiles, in the J. Bevil Sur., 220 ft. N and 330 ft. E of Sur. ..... Rigging up.
Powell & Kydendall's No. 1 Christian Mager in the W. Byerly Sur., 150 ft. N and 450 ft. E of farms of 150 acres ..... Shut down 1,501 ft.

WILSON COUNTY

Tidal Oil Co.'s No. 1 Felix Kulesza, Susanna Larrison Sur., 225 ft. to E line, 1,320 ft. to S line of 647-ac. tract ..... Drlg. 3,380 ft. in Edwards; reaming hole.
Trinity Drillers' No. 1 Richter, in Trevino Sur., 3,005 ft. to E line, 250 ft. to N line of 58-ac. lease..... T. D. 4,503 ft.; drlg. marl.
Rycade Oil Corp. et al's No. 1 George Hice, Juan Delgado Sur., 650 ft. W of Cibolo River, 150 ft. SE line of tract..... T. D. 2,240 ft.; testing oil and gas show.

ZAPATA COUNTY

R. F. Blankenship's No. 1 G. T. Montemeyer, Sur. 45, Blk. 7, 150 ft. N and E lines..... T. D. 1,321 ft.; bailing and swabbing; showing little oil.
O. W. Killam's No. 1, J. G. Martinez Sur. No. 2, 550 ft. W line, 150 ft. S line of SE of survey..... T. D. 980 ft.; coring.
John Pappas' No. 2 Cuellar, Por. 33 and 34..... T. D. 1,856 ft.; sand 1,850-56 ft.
National Oil Co.'s No. 1 D. B. Adams..... T. D. 690 ft.; shut down; lack of water; making considerable gas.

ZAVALA COUNTY

Tritex Oil Co.'s No. 1 Clay Burns..... T. D. 780 ft.; standing.
Chicago Merchants Produce Co.'s No. 1 Fee, 1 mile E of La Pryor..... T. D. 1,825 ft.; abandoned; show of gas and salt water.
Tritex Oil Co.'s No. 2 Childress, one-fourth mile NW of old Dominion Co.'s No. 1 Pryor..... Drlg. 650 ft.
Weigand Brothers' No. 1 W. L. Gates, Hooper & Wade Sur. No. 13, 1,320 ft. S of N line, 1,320 ft. W of NE cor. survey, about 16 miles S of Batesville..... Spudding in.
Jack Baldwin's No. 1 J. R. Price, in the W. E. Erskin Sur. No. 34 ..... Spudded in and shut down.
Southern Crude Oil Purch. Co.'s No. 1 Nat M. Washer in the T. Pinckhardt Sur. No. 180, 1 deg. E, 6,795 ft. from SE cor. ..... Location.
Texas Gas & Fuel Co.'s No. 2 West in the W. Zuniga Sur. ..... T. D. 1,818 ft.; shut down; estimated 4,000,000 ft. gas; hole full salt water.
Texas Fuel & Gas Co.'s No. 4 West Survey 44..... T. D. 1,025 ft.; drlg. in blue shale; to be drilled to 2,500 ft.
Texas Gas & Fuel Co.'s No. 3 West in the W. Zuniga Sur., 3,000 ft. from S line, 6,700 ft. from W line..... T. D. 902 ft.; dry and abandoned in blue shale and lime shells.
Texas Fuel & Gas Co.'s No. 1 Matthews in upper Byrd Ranch ..... T. D. 450 ft.; drlg. in shale.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 56)

Humble & Valley's No. 2 Mahnke ..... Drlg. sandy shale 911 ft.
Humble & Valley's No. 1-C Mitchell ..... Location.
Humble & Valley's No. 6 Mueller ..... Rigging up to pump 3,270 ft.
Humble & Valley's No. 8 Mueller ..... Drlg. sandy shale 3,047 ft.
Humble & Valley's No. 4 Payne ..... Comp. flowing 320 bbls. oil 3,420 ft.
Humble & Valley's No. 5 Payne ..... Drlg. shale 3,026 ft.
Humble & Valley's No. 6 Payne ..... Derrick
Humble & Valley's No. 7 Payne ..... Location.
Humble & Valley's No. 8 Payne ..... Location.
Humble & Valley's No. 5 Saunders ..... Rig.
Humble & Valley's No. 4 Sherrill ..... Derrick.
Humble & Valley's No. 6 Thompson ..... Derrick.
Humble & Valley's No. 7 Thompson ..... Location.
Humble & Valley's No. 6 Urban ..... Sidetracking 2,412 ft.; total depth 3,086 ft.
Humble & Valley's No. 7 Urban ..... Standing 1,165 ft.
Humble & Valley's No. 8 Urban ..... Drlg. shale and lime 2,049 ft.
Humble & Valley's No. 7-A Walton ..... Shut down 1,190 ft.
Humble & Valley's No. 8-A Walton ..... Derrick.
Humble & Valley's No. 3-A Washington ..... Spudded.
Humble & Valley's No. 4 Woodley ..... Standing 1,212 ft.
Humble & Valley's No. 5 Woodley ..... Drlg. shale 1,352 ft.
Humble & Valley's No. 6 Woodley ..... Derrick

DE WALT—FORT BEND COUNTY

Humble Oil & Refining Co.'s No. 2-C Bankers Mortgage.. Coring sand showing oil 3,575 ft.
Humble O'l & Refining Co.'s No. 2-B Bankers Mortgage.. Rig.
Humble Oil & Refining Co.'s No. 11 Brazos ..... Drlg. rock 1,512 ft.
Humble Oil & Refg. Co.'s No. 9 Hamner fee ..... Location.
Humble Oil & Refg. Co.'s No 13 Sugarland ..... Rig.
Humble Oil & Refg. Co.'s No. 3 Sugarland ..... Rig.
Humble Oil & Refg. Co.'s No. 8 Nelson ..... Drlg. shale and lime 2,312 ft.

HUMBLE—HARRIS COUNTY

John Deering's No. 5 Bissonet ..... Testing sand showing oil 3,084 ft.
Humble Oil & Refg. Co.'s No. 7 Williams (south) ..... Failed to flow; running tubing 5,280 ft.
Humble Oil & Refg. Co.'s No. 8 Williams (south) ..... Rig
Humble Oil & Refg. Co.'s No. 10 Williams (south)..... Drlg. sticky shale 4,820 ft.
Humble Oil & Refining Co.'s No. 2 Trahon (south) ..... Drlg. sticky shale 4,582 ft.
South Texas Petroleum Co.'s No. 14 Morris, south ..... Rig.
South Texas Petroleum Co.'s No. 2 Lee (south) ..... Drlg. shale 4,785 ft.
South Texas Petroleum Co.'s No. 3 Lee ..... Rig.
Sun Oil Co.'s No. 3 Bender (northwest) ..... Drlg. sandy shale 3,887 ft.
The Texas Company's No. 1 Atlantic & Gulf, southeast .. Building derrick.
The Texas Company's No. 30 Carroll, northeast ..... Rig.

The Texas Company's No. 36 Kohler, northeast ..... Drlg. hard sand and boulders 1,628 ft.
The Texas Company's No. 2 Dunman, south side ..... Failed to flow; running tubing 5,061 ft.
The Texas Company's No. 3 Dunman, south side ..... Comp. flowing 1,100 bbls. oil 5,161 ft.
The Texas Company's No. 4 Dunman, south side ..... Comp. flowing 1,400 bbls. oil 5,144 ft.
West Production Co.'s No. 2 Foster ..... Drlg. shale 2,919 ft.

BLUE RIDGE—FORT BEND COUNTY

Cunningham Prod. Co.'s No. 6 Blakely (workover) ..... Shut down 2,873 ft.
Humphreys Corp.'s No. 4 West Schenck (workover) ..... Standing.
Sinclair Oil & Gas Co.'s No. 1 Blakely ..... Rigging.
Sinclair Oil & Gas Co.'s No. 4 Blakely (workover) ..... Rigging up to deepen.

PIERCE JUNCTION—HARRIS COUNTY

Anderson & Plummer's No. 6 Whitehead (workover) ..... Fishing drill pipe.
Gulf Production Co.'s No. 21 Taylor ..... Drlg. hard sand 4,155 ft.
Navarro Oil Co. and Texas Exp. Co.'s No. 11 Dooley (workover) ..... Comp. flowing 1,200 bbls. pipe line oil 4,473 ft.
Navarro Oil Co. and Humble Oil & Refg. Co.'s No. 5 Dooley (workover) ..... Standing after testing dry 5,039 ft.
Rio Bravo Oil Co.'s No. 11-B Settegast ..... Drlg. sand and shale 1,985 ft.
Rio Bravo Oil Co.'s No. 12-A Settegast (workover) ..... Drlg. gumbo and lime 4,864 ft.
Rio Bravo Oil Co.'s No. 17-A Settegast, west ..... Drlg. sandy shale 4,055 ft.
Saxet Gas Co.'s No. 5 Herman (southwest) ..... Blew out 4,161 ft.; pumping mud.
Saxet Gas Co.'s No. 6 Herman, southwest ..... Comp. flowing 690 bbls. oil, 5/16-in. choke; set 22 ft. screen 4,518 ft.
Saxet Gas Co.'s No. 7 Herman, southwest ..... Derrick.
Superior Oil Co.'s No. 3-A Whitehead ..... Drlg. sandy shale 2,850 ft.
Superior Oil Corp.'s No. 2 Herman, southwest ..... Comp. flowing 50 bbls. fluid, 4 per cent b.s. and water, hourly on ¼-in. choke; sand 4,704-4,809 ft.

LIBERTY—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 9 Groggan ..... Testing sandy shale showing oil 3,464 ft.
Sun Oil Co.'s No. 54 Mitchell ..... Drlg. gumbo and lime 2,358 ft.
The Texas Company's No. 5 Green (workover) ..... Total depth 3,290 ft.; sidetracking in hard sand 3,190-95 ft.
Vacuum Oil Co.'s No. 1 Clarion, shallow pool ..... Derrick.

HULL—LIBERTY COUNTY

W. B. Flynn's No. 8 Harrison (workover) ..... Drlg. 3,012 ft.
Empire Gas & Fuel Co.'s No. 11 Barngrover (workover) .. Drlg. 3,406 ft.
Gulf Production Co.'s No. 50 Phoenix (workover) ..... Testing oil sand 5,036 ft.
Gulf Production Co.'s No. 68 Phoenix (workover) ..... Drlg. 3,761 ft.
Houston Production Co.'s No. 14 Barngrover ..... Drlg. 3,271 ft.
Humble Oil & Refg. Co.'s No. 25 Guedry ..... Drlg. gumbo 2,250 ft.
Ocean Springs Oil Co.'s No. 1-H Palmer ..... Tested salt water 1,438 ft.; standing.
Republic Production Co.'s No. 57 Dolbear (workover) .... Drlg. 2,327 ft.
The Texas Company's No. 8 Hannah-Vacuum ..... Drlg. sand and shale 3,566 ft.

BIG CREEK—FORT BEND COUNTY

Benedum & Trees' No. 1 J. F. Ahlers ..... Derrick.
Benedum & Trees' No. 1 Moore ..... Heaving shale 4,179 ft.; washing.
The Texas Company's No. 4 fee (workover) ..... Pulling screen 3,958 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 4 Mayes ..... Plugged from 2,865 ft. to 2,818 ft.; waiting cement to set.
Pure Oil Co.'s No. 6-A Mayes ..... Drlg. sand and shale 2,966 ft.
Pure Oil Co.'s No. 9 Mayes ..... Drlg. shale and boulders 211 ft.
Pure Oil Co.'s No. 4 Lost Lake ..... Dredging canal to location.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 26 Wisdom ..... Coring 4,776 ft.

BATSON—HARDIN COUNTY

Ada Belle Oil Co.'s No. 131 Hooks & Choate ..... Comp. pumping 20 bbls. oil 686 ft.
Ada Belle Oil Co.'s No. 132 Hooks & Choate ..... Drlg. 523 ft.
East Batson Oil Co.'s No. 9 Bates ..... Location.
Paraffine Oil Co.'s No. 84 Paraffine ..... Comp. pumping 3 bbls. per hr. oil 559 ft.

SOUR LAKE—HARDIN COUNTY

Austin et al's No. 1 Watson ..... Shut down 966 ft.
Lake View Oil Co.'s No. 8 Minor ..... Drlg. 9,223 ft.
Gilbert Oil Co.'s No. 107 Gilbert ..... Derrick.
M. E. Peveto's No. 1 Merchant ..... Rig.
E. M. Tarry's No. 1 Wirt Davis ..... Abandoned 896 ft.
The Texas Company's No. 287 fee ..... Rigging up to pump 2,653 ft.
The Texas Company's No. 305 fee ..... Derrick.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 86 Cotton ..... Comp. pumping 8 bbls. oil 1,118 ft.
Rio Bravo Oil Co.'s No. 86-B Cotton ..... Bailed dry 353 ft.; pulling casing.

ORANGE—ORANGE COUNTY

Supreme Oil Co.'s No. 3 Jackson (workover) ..... Rigging up to pump 3,424 ft.
Sinclair Oil & Gas Co.'s No. 2 Leon (workover) ..... Pulling liner to deepen.

GOOSE CREEK—HARRIS COUNTY

R. J. Bradbury's No. 5 Gillette ..... Shut down 911 ft.
Cedar Bayou Oil Co.'s No. 11 Busch ..... Bailed dry 2,611 ft.; standing.
Russell Ferrell's No. 4 Gillette (workover) ..... Pulling screen to deepen.
Humble Oil & Refg. Co.'s No. 77 Simms-Smith ..... Drlg. sand 498 ft.
Lake Shore Oil Co.'s No. 4 Duke ..... Shut down 2,594 ft.
J. M. West, trustee, No. 3 Scorrega ..... Tested salt water 5,081 ft.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 55 McFaddin (workover) ..... Drlg. shale and lime 6,039 ft.
Yount Lee Oil Co.'s No. 71 McFaddin (workover) ..... Running tubing 3,806 ft.
Yount Lee Oil Co.'s No. 120 McFaddin ..... Testing oil sand 4,579 ft.
Yount Lee Oil Co.'s No. 121 McFaddin ..... Cem. casing to test oil sand 4,434 ft.
Yount Lee Oil Co.'s No. 122 McFaddin ..... Drlg. sandy shale 4,597 ft.
Yount Lee Oil Co.'s No. 123 McFaddin ..... Drlg. 1,401 ft.
Yount Lee Oil Co.'s No. 124 McFaddin ..... Derrick.
Yount Lee Oil Co.'s No. 99 Gladys City ..... Derrick.
Yount Lee Oil Co.'s No. 13 Gladys City (workover) ..... Testing oil sand 4,021 ft.
Yount Lee Oil Co.'s No. 45 Gladys City (workover) ..... Swabbing 4,231 ft.
Yount Lee Oil Co.'s No. 61 Gladys City ..... Bailing 3,914 ft.
Yount Lee Oil Co.'s No. 11 Fee (workover) ..... Abandoned.

WEST COLUMBIA—BRAZORIA COUNTY

Saxet Oil Co.'s No. 2 Hogg ..... Drlg. lime, shale and shell 4,376 ft.

NORTH DAYTON—LIBERTY COUNTY

John A. Deering's No. 6 fee ..... Cem. 6-in. casing to test oil sand 969-76 ft.
Humble Oil & Refining Co.'s No. 1 Jamison, south ..... Derrick.
The Texas Company's No. 1 Paraffine fee ..... Rig.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 5-A Smith ..... Fishing 4,497 ft.
Marrs McLean's No. 6 Cade (old well) ..... Drlg. 4,146 ft.
Marrs McLean's No. 12 Cade (workover) ..... Drlg. 2,786 ft.
Marrs McLean's No. 17 Cade ..... Drlg. 2,531 ft.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 20 Moore ..... Drlg. gumbo 840 ft.

DAMON MOUND—BRAZORIA COUNTY

H. R. Cullen's No. 2 Smith ..... Junked and abandoned 3,418 ft.
L. & M. Oil Co.'s No. 5 Wisdom ..... Drlg. sandy shale 1,870 ft.

REFUGIO—REFUGIO COUNTY

Benedum & Trees' No. 3 Rooke ..... Drlg. sticky shale 5,791 ft.
Herman F. Heep's No. 1 Rutherford ..... Shut down for water 2,550 ft.
Houston Gulf Gas Co.'s No. 1 Lambert ..... Drlg. hard sand 4,716 ft.
Houston Gulf Gas Co.'s No. 2 Morgan-Vance ..... Drlg. sticky shale 2,903 ft.
Houston Gulf Gas Co.'s No. 3 Cummings ..... Drlg. gumbo 467 ft.
Houston Gulf Gas Co.'s No. 6 O'Brien ..... Drlg. gumbo 1,952 ft.
Houston Gulf Gas Co.'s No. 9 T. P. Shelly ..... Drlg. gumbo 432 ft.
Houston Oil Co.'s No. 11 Pratt-Hewitt-Rooke ..... Coring sand showing oil 3,664 ft.
Houston Oil Co.'s No. 12 Pratt-Hewitt-Rooke ..... Cored sand showing oil 3,676-83 ft.
Houston Oil Co.'s No. 1 Rooke Hotel ..... Rig.
Independent Oil & Gas Co.'s No. 1 O'Brien ..... Swabbed salt water, sand 6,484-89 ft.
Independent Oil & Gas Co.'s No. 2 Claude Heard ..... Drlg. gumbo 2,132 ft.
Independent Oil & Gas Co.'s No. 1-B J. F. B. Heard .... Cem. 9⅝-in. casing 3,652 ft.; total depth 3,666 ft.
Independent Oil & Gas Co.'s No. 2-B J. F. B. Heard ..... Drlg. sandy shale 3,655 ft.
Independent Oil & Gas Co.'s No. 1 T. P. Shelley ..... Drlg. sandy shale 3,872 ft.
Independent Oil & Gas Co.'s No. 1 Huddleston ..... Location.
Independent Oil & Gas Co.'s No. 6 Reilly ..... Drlg. rock 517 ft.
Independent Oil & Gas Co.'s No. 2 West ..... Drlg. sticky shale 2,714 ft.
Larco Co.'s No. 1 Strauch ..... Comp. flowing 25 bbls. pipe line oil 3,700 ft.
Morgan & Morgan's No. 1 Rooke ..... Derrick.
Morgan Oil Corp.'s No. 1 Swift ..... Drlg. rock 1,180 ft.
Morgan Oil Corp.'s No. 4 City ..... Drlg. rock 1,366 ft.
Morgan Oil Corp.'s No. 1 Fox, Block 71 ..... Drlg. gumbo 976 ft.
Morgan Oil Corp.'s No. 1 Fox, Block 72 ..... Oil sand 3,672-81 ft.; cem. 6⅝-in. casing 3,670 ft.
Oigufer Oil Co.'s No. 3 Ryalls ..... Rig.
Pearson Properties' No. 3 Fox ..... Cored salt water sand 4,794-3,802 ft.
Pearson Properties' No. 1 C. Heard ..... Drlg. hard lime 2,721 ft.
Ed Price et al's No. 1 Mission River ..... Drilling.
Rutherford Traylor Oil Co.'s No. 1, Block 92 ..... Drlg. shale 2,042 ft.
Rutherford Traylor Oil Co.'s No. 1, Block 77 ..... Spudded.
Saxet Oil Co.'s No. 1 Cable ..... Rig.
Saxet Oil Co.'s No. 3 Holmes Heard ..... Comp. flowing 50 bbls. net oil, 3,698-3,726 ft.
Saxet Oil Co.'s No. 1 Ryals ..... Drlg. 4,600 ft.
The Texas Company's No. 1 Shelton ..... Spudded.
Union Prod. Co.'s No. 2 O'Brien ..... Total depth 5,527 ft.; casing cem. 5,516 ft.
Union Prod. Co.'s No. 2 Mitchell ..... Comp. flowing 21 bbls. an hour; pinched in; sand 5,448-61 ft.
Union Prod. Co.'s No. 1, Block 3 ..... Location.
Union Prod. Co.'s No. 2 Powers (workover) ..... Comp. gas well spraying oil 5,481-91 ft.
Union Prod. Co.'s No. 1 Ben Shelton ..... Drlg. hard shale and lime 4,636 ft.
Union Prod. Co.'s No. 1 J. F. B. Heard ..... Location.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co. & Gulf Refining Co.'s No. 25 Miller ..... Set 13⅜-in. casing in gumbo 1,169 ft.
Vacuum Oil Co. & Gulf Refining Co.'s No. 8 Bordages ... Drlg. gumbo 3,407 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 6 Lempke ..... Drlg. gumbo and lime 2,449 ft.
Calcasieu Oil Co.'s No. 16 Watkins ..... Drlg. sand and boulders 2,529 ft.
Rycade Oil Corp.-Humble Oil & Refg. Co.'s No. 4 Gulf Land ..... Drlg. sticky shale 5,672 ft.
Sunshine Oil Co.'s No. 6 Ellender ..... Derrick.
Rex Petroleum Corp.'s No. 1 Duhon ..... Drlg. sand and shale 3,200 ft.
Star Petroleum Co.'s No. 1 Lacey ..... Drlg. 1,900 ft.
The Texas Company's No. 6 State, Calcasieu Lake ..... Derrick.

JENNINGS—ACADIA PARISH

Cline, Smith & Cline's No. 9 Conklin ..... Drlg. 207 ft.
The Texas Company's No. 5 Rayne heirs (King tract) ..... Drlg. 6,012 ft.
Yount Lee Oil Co.'s No. 5 Crowley, Sec. 48-9s-3w ..... Drlg. 3,587 ft.
Yount Lee Oil Co.'s No. 1 E. F. Simms (northwest side) .. Drlg. 6,781 ft.
Yount Lee Oil Co.'s No. 8 Houssiere-Latrielle, Section 47-9s-2w ..... Rig.

EDGERLY—CALCASIEU PARISH

Drysdale-Savoy Oil Co.'s No. 2 Hill (workover) ..... Drlg. 3,138 ft.
Strange Oil Co.'s No. 1 Reed ..... Drlg. 2,529 ft.
Strange Oil Co.'s No. 1 Koonce ..... Drlg. 2,644 ft.
Rex Petroleum Co.'s No. 10 Hunter (workover) ..... Junked and abandoned; total depth 4,812 ft.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 49 Star-Vincent ..... Drlg. 2,286 ft.
Marrs McLean's No. 4 Gray (workover) ..... Shut down 1,806 ft.
Vinton Petroleum Co.'s No. 5 Matilda Gray ..... Drlg. 2,274 ft.
Wilson Broach's No. 1 Vinton ..... Drlg. 2,832 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 9 Bouillon fee ..... Rigging up.
Rycade Oil Corp.'s No. 2 Atchafalaya fee (oil well) .... Cored salt 5,516-29 ft.; standing.
Rycade Oil Corp.'s No. 5 Atchafalaya fee ..... Spudded.

STARKS—CALCASIEU PARISH

J. O Davis' No. 1 Industrial ..... Drlg. 3,726 ft.
Gulf Refining Co.'s No. 18 Lutcher-Moore ..... Comp. flowing 175 bbls. oil 797 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 9 Yount Lee ..... Drlg. gumbo 1,438 ft.

ANSE LA BUTTE—ST. MARTIN PARISH

Yount Lee Oil Co.'s No. 1 Hebert ..... Drlg. 1,800 ft.

SORRENTO—ASCENSION PARISH

Gulf Refining Co.'s No. 17 United Land Co. ..... Drlg. gumbo 946 ft.

MISCELLANEOUS WILDCATS

TEXAS

BRAZORIA COUNTY

Mills Bennett Production Co.'s No. 1 Allen, Allen Dome.. Drlg. plug; total depth 4,787 ft.
Faust et al's No. 5 Faust ..... Shut down 3,248 ft.
Shell Petroleum Corp.'s No. 1 Blakely-Winston, Danbury ..... Coring sand 3,430 ft.
Steel & Strickland's No. 1 Lockridge ..... Rig.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... No report.

FORT BEND COUNTY

Gulf Production Co.'s No. 1 Brazos Valley, Cloding .... Drlg. 1,117 ft.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Shut down 4,055 ft.
Buffalo Oil Co.'s No. 1 Beall, Eureka ..... Drlg. sand and gravel 1,967 ft.
A. F. Belunek's No. 1 Thompson ..... Rig.
Cranfill & Reynolds' No. 1 Brown ..... Drlg. water sand showing some oil 4,520 ft.
Hammond et al's No. 1 Brodt ..... Abandoned 1,190 ft.
Higgins Oil & Fuel Co.'s No. 1 Siadous, Mykawa ..... Sand showing gas 4,263-99 ft.
Humble Oil & Refg. Co.'s No. 7 Warren, Hockley ..... Drlg. clay and sand 292 ft.
Humble Oil & Refg. Co.'s No. 3 Minnetex ..... Standing with casing cem. 1,177 ft.
Humble Oil & Refg. Co.'s No. 1 Siadous (workover) .... Drlg. sand 4,122 ft.; showing gas.
Humble Oil & Refg. Co.'s No. 2 Woodburn ..... Drlg. shale 3,958 ft.
Rich et al's No. 1 Highlands ..... Derrick.
Watts Brothers' No. 1 Hubert, Mykawa ..... Trying to make drill stem test; total depth 4,729 ft.

JEFFERSON COUNTY

Gulf Production Co.'s No. 8 Bordages ..... Fishing drill pipe.
Gulf Production Co.'s No. 2 Guy Junker, Fannette ..... Drlg. 4,612 ft.
River Oil Corp.'s No. 1 Ship Channel, Brown Survey .... No report.
Rosedale Oil Co.'s No. 1 Walker ..... Standing after testing salt water 1,649 ft.
Stilwell Oil Co.'s No. 1 Brinkman ..... No report.
The Texas Company's No. 2 Pipkin, Big Hill ..... Drlg. sticky shale 6,008 ft.
The Texas Company's No. 1 Fitzhugh, Big Hill ..... Drlg. sand and shale 5,626 ft.
Westbury Oil Co.'s No. 1 West, Choate Survey ..... Drlg. 1,050 ft.

LIBERTY COUNTY

Campbell et al's No. 1 fee ..... Rig.
Gulf Production Co.'s No. 1 Weiser ..... Fishing drill pipe 5,649 ft.
Gulf Production Co.'s No. 3 Boyt, Hankamer ..... Drlg. 4,082 ft.
Humble Oil & Refg. Co.'s No. 6 Sterling, Moss Bluff .... Shut in producer.
Cranfill & Reynolds Co.'s No. 4-A Esperson, Sheeks ..... Drlg. gumbo 2,176 ft.
Cranfill & Reynolds Co.'s No. 5-A Esperson, Sheeks ..... Drlg. plug 2,100 ft.
Cranfill & Reynolds Co.'s No. 6-A Esperson, Sheeks ..... Rig.
Yount Lee Oil Co.'s No. 2 Moores Bluff, Sheeks ..... Drlg. shale and lime 4,956 ft.

MATAGORDA COUNTY

Cockburn et al's No. 1 Hawkins, Shepherds, Mott ..... Location.

MONTGOMERY COUNTY

Kelley-Baker et al's No. 1 Juerges ..... No report.

ORANGE COUNTY

Gulf Production Co.'s No. 1 J. E. Starks, Port Neches ... Fishing 5,778 ft.
Gulf Production Co.'s No. 1 M. H. Starks, Port Neches ... Location.
The Texas Company's No. 2 Polk, Port Neches ..... Drlg. gumbo 346 ft.

WALLER COUNTY

Kirby Petroleum Co.'s No. 1 Davis, San Felipe ..... Derrick.

SOUTH LOUISIANA

ASCENSION PARISH

Triumph Oil Corp.'s No. 2 Lacey, Sec. 20-10s-4e ..... No report.

ASSUMPTION PARISH

Gulf Refining Co.'s No. 1 Armitese, Napoleonville ..... Rig.
Poor Boys Drilling Co.'s No. 1 LeBarre, Sec. 47-12s-13e .. Rigging up.

CALCASIEU PARISH

Wilfred Lanay's No. 2 James ..... No report.

CAMERON PARISH

Shell Pet. Corp.'s No. 1 Marceaux, Mallard Bay, Sec. 32-12s-3w ..... Drlg. plug 5,995 ft.
The Texas Company's No. 5 Calcasieu Lake, Calcasieu Lake Dome ..... Moving in derrick material.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Derrick.
Yount Lee Oil Co.'s No. 1 Starks, Sec. 1-15s-15w ..... Drlg. approximately 7,600 ft.

IBERIA PARISH

The Texas Company's No. 4 Vermillion Bay ..... Drlg. shale 4,893 ft.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 4 Wilbert, White Castle .... Rig.
Standard Oil Co.'s No. 4 Wilbert, Bayou Blue ..... Comp. flowing 450 bbls. oil showing some gas and water 3,119 ft.
Standard Oil Co.'s No. 4 Schwing, Bayou Blue..... Location.
Standard Oil Co.'s No. 3 Schwing, Bayou Blue ..... Drilling.
Standard Oil Co.'s No. 5 Wilbert, Bayou Blue ..... Building derrick.
Standard Oil Co.'s No. 1 Case, Bayou Des Glaise ..... Location.

JEFFERSON DAVIS PARISH

Pure Oil Co.'s No. 1 May, Sec. 1-10s-5w ..... Shut down 205 ft.; mixing mud.
Yount Lee Oil Co.'s No. 1 Courtney, Welsh ..... Rig.

LA FOURCHE PARISH

Gulf Refining Co.'s No. 25 Stark, Thibodaux ..... Drlg. salt 3,152 ft.
Gulf Refg. Co.'s No. 1 City of New Orleans, Bay Cham- Drlg. 2,616 ft.

PLAQUEMINE PARISH

Humble Oil & Refg. Co.'s No. 1 Cockrell-Moran, Lake Grand Ecaille ..... Drlg. sand 1,212 ft.
Humble Oil & Refining Co.'s No. 1 Lake Washington, Lake Grand Ecaille ..... Total depth 4,260 ft.; reaming 3,315 ft.
The Texas Company's No. 3 Garden Island Bay ..... Waiting cem. to set 1,766 ft.

ST. LANDRY PARISH

Elbof Exploration Co.'s No. 1 Ledoux, Eunice..... No report.
Herbert-Baker Oil Co.'s No. 1 Fisher, Section 10-3S-4e... No report.
Gulf Refining Co.'s No. 1 Ovide Lahaye, Port Barre ..... Rigging.
The Texas Company's No. 3 Botney Bay, Port Barre .... Drlg. 1,600 ft.

ST. MARTIN PARISH

The Texas Company's No. 1 fee, Hager Dome ..... Drlg. 5,689 ft.
The Texas Company's No. 3 fee, Hager ..... Location.
The Texas Company's No. 2 St. Martin, Hager ..... Drlg. hard, sandy lime 4,588 ft.
The Texas Company's No. 4 fee, Hager ..... Location.
The Texas Company's No. 1 Iberville, Hager ..... Drlg. 4,600 ft.
The Texas Company's No. 2 Iberville, Hager ..... Location.
The Texas Company's No. 3 Iberville, Hager ..... Location.

ST. MARY PARISH

Louisiana Land & Exloration Co.'s No. 2 Clark, Berwick.. No report.
Pure Oil Co.'s No. 1 Wax Lake, Sec. 12-17s-9e ..... Location.
Vacuum Oil Co.'s No. 1 Zenor, Patterson ..... Rig.

TERREBONNE PARISH

Charles Paggi's No. 2 Evergreen, Sec. 145-15s-16e ..... Location.
The Texas Company's No. 4 State-Bay St. Elaine ..... Derrick.
The Texas Company's No. 2 La. L. & E. Co., Dog Lake.. Drlg. water sand 4,267 ft.
The Texas Company's No. 1 State—Bay Junop..... Drlg. 9¼-in. plug 4,407 ft.; oil sand 4,778-89 ft.
The Texas Company's No. 3 State—Lake Pelto..... Drlg. sand 2,278 ft.
The Texas Company's No. 2 State—Caillou Island..... Drlg. sand 3,152 ft.
The Texas Company's No. 3 State—Lake Barre ..... Rig.
The Texas Company's No. 4 State, Lake Barre ..... Location.
The Texas Company's No. 3 L. L. & E. Co., Four Isle .... Location.

SOUTHWEST TEXAS

(Continued from Page 57)

tal depth 2,220 feet, drilling in chalk. Same company's No. 1 Posey, 150 feet each way north and west lines of 71-acre tract in the J. R. Robinson Survey, building derrick.

Humble Oil & Refining Co.'s No. 3-A Denman, 600 feet from 2-A, 150 feet W of division line of Knoblock and Posey tracts, rigging up. Same company's No. 4-A Denman, 600 feet from 3-A Denman and in line with it, rigging up. Same company's No. 5-A Denman, 150 feet S line, 750 feet from a point beginning at W line of Henry Willie 113 acres in the A. S. Emmett Survey, rigging up. Same company's No. 1 Dowdy, 150 feet each way from SE corner of 62-acre tract in the Jacob Darst Survey, rigging up. Same company's No. 2 Sally Wilson, 150 feet S of center of N line in the J. C. Darst Survey, total depth 2,657 feet, swabbing 90 bbls. per hour.

Killam and others' No. 1 C. N. Adams, 150 feet E and SE lines of 25-acre tract in the James Hodges Survey, drilling in marl at 2,640 feet.

Magnolia Petroleum Co.'s No. 4 Dix, 1,330 feet from NE line, 150 feet from SE line of lease and farm in the J. R. Robinson Survey, location. Same company's No. 5 Dix, 400 feet from NE line, 750 feet from SE line of lease and farm in the J. R. Robinson Survey, total depth 1,110 feet, shut down for water. Same company's No. 1 H. G. Goldman, 1,275 feet from NE line, 150 feet from NW line of farm in the J. B. Alexander Survey, total depth 321 feet, set 10-inch casing. Same company's No. 1 S. M. Romell, 150 feet from SW and SE lines of 40-acre tract in the James Hodges Survey, rigging up. Same company's No. 2 S. M. Romell, 150 feet from NW and SW lines of 40-acre tract in the James Hodges Survey, location. Same company's No. 3 S. M. Romell, 300 feet SW from NW and SE lines of 40-acre tract and 300 feet S of No. 1 well in the James Hodges Survey, building derrick.

Stroubie & Stroubie's No. 1 Rand Miller, 150 feet from N and E lines of 8½-acre tract, east offset to Kirby test, total depth 2,370 feet, drilling in chalk. Same company's No. 2 Rand Miller, 150 feet S from No. 1 in the J. B. Alexander Survey, location. Same company's No. 3 Rand Miller, 150 feet S of No. 2, in the J. B. Alexander Survey, location. Same company's No. 4 Rand Miller, 150 feet S of No. 3, in the J. B. Alexander Survey, location.

Sun Oil Co.'s No. 2 Knoblock, 1,388 feet from SW line, 150 feet from SE line of Knoblock 75-acre lease in the J. B. Robinson Survey, rigging up.

The Texas Company's No. 4 Dallas-Wilson in the J. C. Darst Survey, 150 feet from S line, 763 feet from W line of lease, total depth 2,642 feet, drilled plug, swabbing. Same company's No. 1 A. E. Dowdy, 150 feet N line, 150 feet E line, in the J. C. Darst Survey, building derrick. Same company's No. 1 M. E. Roamel, 150 feet NE, 150 feet NW line of 100-acre lease, rigging up. Same company's No. 1 P. Roamel in the J. R. Robinson Survey, 150 feet from S and E lines of 53-acre tract, total depth 2,610 feet, drilling in Edwards. Same company's No. 2 P. Roamel in the J. R. Robinson Survey, 450 feet from E line, 150 feet from S line of 53-acre tract, total depth 2,516 feet, drilling in Del Rio. Same company's No. 1 Henry Willie in the J. C. Darst Survey, 800 feet from N line, 150 feet from W line of farm, total depth 2,584 feet, set casing. Same company's No. 2 Henry Willie, 150 feet N, 750 feet W of tract, offset to 5-A Denman, rigging up.

Trinity Drillers' No. 1-B Miller, 150 feet each way out of the NW corner of 23.5-acre tract in the G. B. Alexander Survey, rigging up. Same company's No. 1-C Miller, 150 feet each way out of NW corner of 23.5-acre tract in the G. B. Alexander Survey, location.

United North & South Development Co.'s No. 1 Dix McKeen in the J. B. Robinson Survey, 150 feet from S and W lines of lease, total depth 2,274 feet, drilling in chalk. Same company's No. 1 P. Roamel in the J. R. Robinson Survey, 150 feet from S and W lines of 50-acre tract, total depth 2,255 feet, drilling in marl. Same company's No. 2 P. Roamel in the J. R. Robinson Survey, total depth 1,200 feet, drilling in shale. Same company's No. 3 P. Roamel in the J. R. Robinson Survey, rigging up rotary.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s Nos. 40 and 41 Kohler, to make location. Same company's No. 42 Kohler, 330 feet S line, 495 feet E line, Survey 172, rigging up.

Simms Oil Co.'s No. 8 Dinn, 660 feet S line, 660 feet E line of SW of SE of Survey 143, location.

Jennings Pool—Zapata County

Allied Gas Co.'s No. 4 F. G. Martinez, Survey 6, 500 feet SW line, 500 feet N line of SW of survey, total depth 800 feet, drilling.

Dobrowolski Pool—Bexar County

Texas Oil & Investment Co.'s No. 1 Dobrowolski, 150 feet from S line, 150 feet from E line of W 67 acres of Dobrowolski 147-acre tract in the M. Menchaca Survey, 6 miles W from San Antonio, spudded in.

DRILLING ACTIVITY

Darst Creek—Guadalupe County

Abercrombie and others' No. 1 Dix in the J. R. Robinson Survey, 450 feet EW line, 150 feet NS line of 20-acre tract, total depth 2,220 feet, drilling in chalk.

Gulf Production Co.'s No. 1 C. Anderson in the J. C. Darst Survey, 450 feet from S line, 150 feet from E line of farm in Darst Survey, total depth 2,555 feet, set casing. Same company's No. 1 Thomas Dix in the Joel R. Robinson Survey, 150 feet to NE and SE lines of lease, 300 feet SW of Union North & South Production Co.'s No. 1 Dix, total depth 2,578 feet, swabbing. Same company's No. 1 Tadlock in the Jacob C. Darst Survey, 150 feet NW corner, total depth 2,640 feet, swabbing.

Humble Oil & Refining Co.'s No. 1 Baker in the J. C. Darst Survey, 150 feet N line, 183 feet W line of tract, location. Same company's No. 2 Baker in the J. C. Darst Survey, 472 feet N line, 183 feet E line of tract, location. Same company's No. 1 Sally Wilson in the J. C. Darst Survey, 150 feet from N line, 183 feet from W line, derrick corrected. Same company's No. 3 Sally Wilson in the Jacob Darst Survey, 450 feet N line, 300 feet E line, total depth 2,655 feet, swabbing. Same company's No. 1 Yates Wilson in the Jacob Darst Survey, 150 feet from N and W lines, location (corrected). Same company's No. 2 Yates Wilson in the J. C. Darst Survey, 915 feet N line, 216 feet W line, total depth 2,580 feet, drilling plug.

Magnolia Petroleum Co.'s No. 3 Dix in the J. R. Robinson Survey, 300 feet SW of No. 2 Dix, total depth 2,528 feet, set casing. Same company's No. 1 L. V. Echols in the James Hodges Survey, 150 feet to NW and SW lines of farm, 3,650 feet to SW, 3,220 feet to NW of survey, total depth 30 feet, set casing. Same company's No. 2 L. V. Echols in the James Hodges Survey, 150 feet to SW and SE lines of lease, 300 feet SE of No. 1 well, 164½-acre tract, location (corrected). Same company's No. 1 J. M. Richburg in the J. R. Robinson Survey, 150 feet from S and E lines, total depth 2,340 feet, drilling in shale. Same company's No. 2 C. Zedler in the J. Hodges Survey, 150 feet from S line and W line, total depth 2,260 feet, drilling in hard shale.

Penn Oil Co.'s No. 1 Rand Miller in the Jerome B. Alexander Survey, total depth 2,628 feet, completing, swabbed 500 bbls.

Sun Oil Co.'s No. 1 Knoblock in the Joel R. Robinson Survey, 150 feet each way out of the S corner of Chris Knoblock 150 acres in SW part of survey, total depth 2,300 feet, drilling in chalk. The Texas Company's No. 2 L. Anderson in the Jacob Darst Survey, 150 feet to N and E lines, shut down at 685 feet. Same company's No. 3 L. Anderson in the Jacob Darst Survey, 150 feet to S and E lines, derrick. Same company's No. 4 Lemmie Anderson in the J. C. Darst Survey, 150 feet to N and W lines of farm, rigged up and shut down. Same company's No. 2 Dallas Wilson in the J. C. Darst Survey, 150 feet to S and W lines, total depth 2,340 feet, drilling in chalk. Same company's No. 3 Dallas Wilson in the J. C. Darst Survey, 150 feet N of center of S line, location.

Turman Oil Co.'s No. 2 Rand Miller in the Jerome B. Alexander Survey, 970 feet from NE line, 150 feet from NW line of farm, total depth 2,470 feet, drilling in Buda lime.

United North & South Development Co.'s No. 2 Thomas Dix in the Joel R. Robinson Survey, 150 feet to SE line of lease, 450 feet to SW line of lease, 300 feet NE of No. 1 Dix, total depth 2,334 feet, drilling in Eagleford.

Pettus Field—Bee County

Mission Drilling Co.'s No. 6 Ray, 1,200 feet E of No. 2, total depth 3,125 feet, drilling in sandy shale, no showing.

Lasater Pool—Brooks County

Houston Oil Co.'s No. 1 Holbien-Wormser in the Palo Blanco de Maguellas Survey, 330 feet N line, 6,540 feet E line, direct offset 660 feet S of No. 1 Lasater, total depth 4,100 feet, coring sand, showed strong for gas on drill stem test.

Kingsville Pool—Kleberg County

Humble Oil & Refining Co.'s No. 8 R. J. Kleberg in the K.T.&I. Survey, Lot 7, Section 40, 150 feet S and E lines of lot, trying to complete for a dry gas well in a sand at approximately 2,400 feet.

Nursery Pool—Victoria County

Humble Oil & Refining Co.'s No. 3-A Jay J. Welder in the D.L.&C. Survey, 1,634 feet SE line, 736 feet SW line, 1½ miles NE from Nursery, total depth 5,415 feet, drilling in shale.

Cole Pool—Duval County

Magnolia Petroleum Co.'s No. 1 Brennan-Benavides, 300 feet NE lines, 300 feet SE lines, Block 486, Mariano Arispe grant, Myrtle E. Hale Subdivision, total depth 1,735 feet, completed as gasser March 29, 1927, rigging up to drill deeper from 1,735 feet. Same company's No. 2 King-Benavides, Block 12, Survey 694, 450 feet N line, 150 feet W line, rigging up.

J. G. Mackay's No. 3 Dinn Survey 454, 660 feet W line, 660 feet N line of NW of SW, total depth 1,700 feet, drilling.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 39 Kohler, Survey 165, 1,650 feet S line, 330 feet E line, total depth 1,794 feet, drilling.

Schoolfield-O'Byrne—Duval County

C. E. Long's (Shell) No. 4 Hahl, Block 26, Survey 250, 330 feet E line, 150 feet N line, total depth 1,100 feet, lost bit and abandoned hole, moved 330 feet E line, 170 feet N line, Block 26, Survey 250, drilling at 1,100 feet.

Randado—Jim Hogg County

Randado Oil Corp.'s No. 35 Palacious, Block 2, Survey 291, 150 feet S line, 450 feet E line, standing at 100 feet.

Magnolia Petroleum Co.'s No. 1 Weil, Block 2, Survey 5, 660 feet N line, 349 feet E line, total depth 1,650 feet, drilling.

Henne-Winch-Fariss—Jim Hogg County

George S. Marshall's No. 4 Holbien, Share 3, Block 10, Survey 11, 150 feet S and W lines, derrick up. George S. Marshall's No. 5 Holbien, Share 3, Block 10, Survey 15, 150 feet N and W lines, rigging up.

Alworth Pool—Jim Hogg County

Charles B. Stevens' No. 2 M. Garza, Block 12, Survey 40, 850 feet NW line, 150 feet NE line, total depth 1,034 feet, sand.

Carolina-Texas Pool—Webb County

Foster Barnsley's No. 7 Webster, Survey 684, 750 feet E line, 510 feet S line of NE of SW of survey, total depth 2,150 feet, drilling, sand 2,138 feet, showed gas.

W. R. Shankle's No. 2 Webster, Survey 684, 1,170 feet W line, 150 feet S line, rigging up.

Magnolia-Cole Pool—Webb County

Magnolia Petroleum Co.'s No. 3 C. Benavides, Survey 662, 1,980 feet W line, 1,980 feet S line, total depth 2,327 feet, sand at 2,320-27 feet, set 8⅛-inch casing at 2,320 feet. Same company's No. 4 Brennan-Benavides in the Mariano Arispe grant, corner Blocks 16, 17, 52, 53, Myrtle E. Hale, Subdivision, total depth 2,474 feet, sand at 2,468-74 feet, set 6⅝-inch casing at 2,467 feet. Same

company's No. 1 D. Benavides, Block 14, Survey 694, 660 feet to E and S lines, total depth 1,375 feet, drilling.

Cole Pool—Webb County

O. W. Killam's No. 16 Bruni, Block 45, Survey 8, Mariano Arispe grant, 328 feet NE line, 300 feet N line of Survey 8, Adams (Foltz) Subdivision of Bruni lands, total depth 1,300 feet, drilling.

Magnolia Petroleum Co.'s No. 1 S. Perez, Survey 460, J. Poitevent, 1,980 feet N line, 660 feet W line, total depth 3,755 feet, standing, waiting on water. Same company's No. 2 King-Harper, Block 2, Survey 323, 660 feet N and E lines, location.

Charco-Redondo—Zapata County

W. R. Duke's (Duke & Evangeline) No. 2 "B" Martinez, Block 17, W. R. Duke Subdivision, Charco Redondo grant, standing at 950 feet.

Jennings Pool—Zapata County

O. W. Killam's No. 17 Cuellar, 600 feet N line, 940 feet E line, 160-acre Cuellar tract out of 1,772-acre Cerrito Blanco grant, derrick. O. W. Killam's No. 18 Cuellar, Cerrito Blanco grant, 3,567 feet NW line, 2,734 feet NE line of 1,772-acre Cuellar tract, total depth 1,479 feet, set 6⅝-inch casing at 1,455 feet, shaley sand at 1,460-63 feet tested dry, pulled casing 1,455 feet, sand 1,473-79, now running casing 1,473 feet. O. W. Killam's No. 19 Cuellar, Cerrito Blanco grant, location.

R. F. Blankenship's No. 2 Garza, Block 2, Survey 413, 425 feet W line, 425 feet N line, rigging up.

Blair & Acklin's No. 2 Trevino, Block 1, Survey 66, 150 feet W line, 200 feet N line, total depth 1,254 feet, backed off two joints of casing in hole, fishing (hole cleared). R. F. Blankenship's No. 1 Garza, Block 13, Survey 413, 160 feet N and E lines, total depth 1,670 feet, hard caprock 1,670 feet, twisted off drill stem, fishing.

South Texas Production Co.'s No. 2 Roy Jennings, Cerrito Blanco grant, 13,000 feet to NW line, 9,800 feet to SW line, total depth 2,150 feet, standing.

LA.-ARK. FIELDS

(Continued from Page 54)

the east, last summer. They appear to figure the block covers a nose extending out from the Spider area and have plenty geophysical dope to confirm the idea.

La Salle Parish

Tunica Petroleum Co. abandoned No. 2 L. & A., a deep test in the White Sulphur area of LaSalle Parish where they have completed a half dozen or so small producers at around 800 feet but failed in all previous deep holes, writing off the test as a salt water hole at 2,440 feet, about as deep as they have gone in this particular vicinity. The test was made in the top of the Wilcox at 2,388 feet. Philp and others' No. 1 Urania, Section 1-10-1e, LaSalle Parish, Urania district, was abandoned at 730 feet where it had stood as a salt water test for the last four months, and Randall and others' No. 3 Urania, Section 1-10-1e, standing at 675 feet since July, also was dropped from the list. Trio Oil Co. never did anything more than build a derrick on location for No. 2 Urania, Section 19-10-2e, and it also was dropped.

Ouachita Parish

Ouachita Parish with four completions and Union with one represented the Monroe gas field in the week's record. Michlouzarner Oil & Gas Co.'s No. 1 Osterland, Section 42-18-4, Ouachita, gauged 368,000 feet of gas at 965 pounds from 2,253 feet and the owners decided to call it a well. Palmer Corp.'s No. 1 Cagle, Section 7-18-5, drilled to 2,463 feet without hitting the second sand gas, plugged back to 2,219 feet and was finished gauging 600,000 feet of gas. A test at 2,386 feet, where one of the Magnolia Petroleum Co.'s United States Government lease wells was finished as a big producer, developed only salt water. The two are several miles apart, Magnolia's well being up on the north edge of production and the Palmer's several miles south of it. Standard Oil Co. is reported buying rather freely north of Bastrop, having taken approximately 6,000 acres on 5-year commercial leases at $5 an acre. The block centers around Wardville, 8 or 9 miles northwest of The Texas Company's Myers well which was the center of attraction for a while some time ago because of an oil show at around 2,900 feet. Incidentally, The Texas Company hasn't surrendered its leases on the block on which the Myers was drilled and, while not committed, may drill again this year as the powers that be haven't entirely lost confidence in the possibilities of the area.

Sho-Van Gas Products Co.'s No. 5 West Virginia, Section 6-18-4, Ouachita, gauged 2,839,000 feet of gas, 995 pounds, from 2,197 feet and Southern Carbon Co.'s No. 4 Phillips, Section 8-19-4, gauged 10,261,000 feet at 790 pounds from 2,177 feet. In Union Parish, Bahan & Bahan's No. 3 School, Section 10-20-3, gauged 3,750,000 feet at 960 pounds from 2,174 feet.

Natchitoches Parish

Robeline Oil & Gas Co. made a drill stem test, dry, of 4 feet of sand on No. 1 Winn, Section 7-8-9, Natchitoches, near the town of Robeline, at 1,171 feet, and is drilling at 1,240 feet. Natchitoches Parish, on the east of Sabine, is enjoying sort of a left-handed leasing boom on the strength of what has happened at Zwolle. The Texas Company and Gulf Refining Co. have been busy and have leased many acres checkerboarded in Townships 8, 9, 10 and 11, Ranges 8, 9 and 10. Ohio Oil Co. is renewing leases on the big block it had at Provencal on which it drilled two wells some time ago; Holbrook and others have a block of 3,000 acres of the Weaver Lumber Co. land in Sections 1, 2 and 3-11-12, for a well to be drilled to 2,600 feet and to be begun within four months; W. M. Coates, of El Dorado, Ark., is building a block around Marthaville in Township 9-10 and has secured so far 3,500 acres for a well, and another block of the same size has been built adjoining it on the west for the same consideration.

This activity is 15 to 20 miles northeast of Zwolle and is rank wildcat stuff, but it goes to show what Zwolle's big well has done for this immediate vicinity of the Shreveport division. Olsan Brothers' well, a mile north of the big producer being dry so far, has not by any means cooled the ardor of leasehounds or operators. They figure chalk rock production is as and where you find it and have come to take H. D. Easton's prescription for handling Zwolle tests as a cure for their worries; he prescribed, in an article appearing in a recent issue of The Oil and Gas Journal, that chalk rock wells, at least those in this area, be bailed dry and allowed to stand—give the stuff a chance to work a channel through the chalk into the hole—before abandoning, putting the pumps against it to deepen, or anything else, even should it be dry on drill stem or bailer test.

ARKANSAS

Aside from the Marine and Modisette wells there wasn't much news out of Arkansas. Southern Producing Co. completed No. 2-A Watts, Section 27-15-15, Ouachita County (Smackover), pumping 25 bbls. from 2,085 feet. Sam Arrendale and others abandoned No. 1 Gallagher & Nelson, Section 18-18-17, Union County, a rank wildcat, as a dry hole at 2,274 feet and Magnolia Petroleum Co.'s No. 1 Schmidt in Section 5-17-14, Champagnolle district of Union County, on which it has been trying one expedient after another after it had showed everything from mud to oil, as a salt water hole at 2,718 feet, old total depth 3,226 feet.

EAST TEXAS

The border county gas area of east Texas had one small well, Natural Gas Producing Co.'s No. 11 Roquemore in the B. C. Jordan Survey of Panola County, Bethany district, 1,500,000 feet, total depth 2,377 feet. Benedum & Trees Oil Co. is reported making location for a second well in Sabine County, No. 1 Pickering, but the check is missing. However, it is not far from the well they recently abandoned as a salt water hole and is close to an old, well known oil seep. Gulf Refining Co. also is reported getting ready to drill in DeSoto Parish, Louisiana, across the Sabine River (northeast) from their No. 2 Pickering in the G. H. Patterson Survey of Shelby County, which was abandoned at 3,560 feet.

MISSISSIPPI

The hot news from Mississippi is that the Gulf Refining Co. has taken over the Home Oil & Gas Co.'s well on the Rainey land in Section 13-5-1e, Rankin County, on the Jackson anticline, and the big block on which it is located and will finish the test. The company already had a half interest in the block and the dope is that it is to finish the present test, which had a gas show at 2,912 feet and drill three more holes on the block, the first to be begun within 90 days and the other two within 90 days from date of abandoning the preceding test. There also seems to be a lot of undercurrent concerning Lauderdale Oil & Gas Co.'s No. 1 Lackey, in which the Gulf is interested, in Section 2-7-12, Lauderdale County. Eight and a quarter-inch pipe was cemented at 2,792 feet for a test of several feet of likely looking sand and plug is scheduled to be drilled January 15. There will be quite a gallery on hand to see what happens.

Production

Daily average production of the various pools in the division for the past week follows:

LOUISIANA

Caddo, light	10,170
Caddo, heavy	2,835
Homer	3,865
Haynesville	4,655
DeSoto Red River	2,990
Elm Grove	545
Bellevue	650
Cotton Valley	2,255
Urania	5,150
Pleasant Hill	915
Sarepta	1,160
Zwolle	3,640
Total	38,830

ARKANSAS

El Dorado	4,230
Smackover, light	5,625
Smackover, heavy	42,290
Stephens	1,000
Nevada	1,165
Lisbon	1,060
Champagnolle	5,210
Mount Holly	150
Bradley	75
Total	60,805
Total both states	99,635
Total last week	98,685
Increase	680

KANSAS FIELDS

(Continued from Page 53)

at 4,193 feet, and it was expected to be a dry hole as this formation was found to be running low on structure.

Butler County

Empire Oil & Refining Co. has the rig up for No. 20 Hess, SW cor. SE NW, Section 18-26-5. No. 93 Koogler, NE cor. SW NE, Section 20-26-5 is a rig. Dixie Oil Co.'s No. 1 Stern, SE cor. SW SE, Section 28-27-6 is rigging up to deepen from 3,063 feet. Durham and others made location for No. 1 Durham, SW. cor. SE SE, Section 16-29-4. Valley Osage Oil Co.'s No. 1 Sires, SE cor., Section 34-23-3 has been abandoned at 2,580 feet. Lario Oil & Gas Co.'s No. 1 Miller, NE cor. SE NE, Section 36-26-3 has been abandoned at 3,085 feet. E. W. Marland Inc.'s No. 1 Harrison, SW cor. NW, Section 22-27-3 is a dry hole at 3,182 feet.

Cowley County

Arkansas Fuel Oil Co.'s No. 1 Biddle, C SW NE, Section 7-32-5 has been completed for 1,000,000 feet of gas in sand 656-68 feet.

Ellis County

Phillips Petroleum Co. moved the rig in for No. 1 T. Schmeidler, SE cor. Section 18-12-17w.

Greenwood County

Empire Oil & Refining Co. has the rig up for No. 3 Norton "C", SW cor. SE NE, Section 22-22-12. No. 6 Patterson "C", NW cor. SE, Section 36-23-11 is also a location. Bisagno and others built the rig for No. 2 Gilroy, SE cor. SW SW NW, Section 5-25-13. Empire Oil & Refining Co. made location for No. 7 Hoggart, NE cor. SW NW, Section 9-25-13. The Prairie Oil & Gas Co. is moving a machine in for No. 1 Parrish, SW cor. NE, Section 16-24-12. Simmons & Amerada Petroleum Corp.'s No. 1 Ellis "B," NW cor. NE NW, Section 27-23-11 has been completed for 250 bbls. in sand 1,924-88 feet. Kite and others' No. 1 Peoples, NE cor. Section 33-23-11 is a dry hole at 2,527 feet. Mendenhall and others' No. 3 Grossarth, CWL NW NW, Section 9-25-13 is dry and abandoned at 1,671 feet.

Lyon County

Gordon & Staats' No. 1 Boche, NE cor. SE NW, Section 16-17-10 has been abandoned at 350 feet. Independent Oil & Gas Co. and Reserve Oil Co.'s No. 1 Moulds, C NE, Section 7-24-1w is dry and abandoned at 3,815 feet.

McPherson County

Barnsdall Oil Co. made location for No. 2 Krehbiel, SW cor. SE, Section 4-21-3w, Voshel Pool. Empire Oil & Refining Co. is moving material in for No. 3 Voshel, SW cor. SE NE, Section 9-21-3w. McPherson Oil & Gas Development Co.'s No. 1 Sorenson, C SE, Section 23-18-2w has been abandoned at 3,590 feet. No. 1 Fisk, SW cor. NE NE, Section 15-21-2w is dry and abandoned at 3,592 feet.

Russell County

E. W. Marland Inc. has the timbers on the ground for No. 1 Maier, NE cor. NW, Section 8-15-14w. Empire Oil & Refining Co. and the Prairie Oil & Gas Co.'s No. 1 Krug, SW cor. NW NW, Section 24-15-14w is a rig.

Sedgwick County

Wentz Oil Corp.'s No. 5 Bright, NW cor. NE NW, Section 1-26-1w Valley Venter Pool is underreaming pipe to 3,396 feet in process of deeping. Bu-Vi-Bar Petroleum Corp.'s No. 10 Wright, SW cor. SE NE, Section 12-26-1w made 700 bbls. from sand 3,366-69 feet.

Stevens County

Trees Oil Co.'s No. 1-A Grundy, C SW, Section 3-35-38 has been completed for 11,250,000 feet of gas in sand 2,615-2,780 feet.

Sumner County

Sunray Oil Corp. made location for No. 1 Neal, SE cor., Section 29-31-1w.

WILL ATTEMPT TO REVIVE ALBERTA'S FIRST FIELD

(Continued from Page 60)

the Rocky Mountain Development Co. there has been reported a daily production of at least 125 bbls.

"There are also numerous oil seepages in the district. I visited one seepage in an adjoining section where the crude black oil was dripping from the shaly rocks; the oil had thoroughly saturated the rock debris on the hill slopes. In Section 32, other strong seepages of black oil were observed. The gravels on the side of Oil Creek at this locality are heavily saturated with these petroliferous products. For some years there oil seepages were collected and profitably exported to the plains for cattle dipping purposes.

"The oil seepages in this district are by far the strongest indications of oil that are known to occur in Alberta.

"The geology in Oil Creek district is quite different from that in any of the fields in Alberta, that are being prospected for oil today. The information already in hand regarding the position at which oil reserves can be expected to occur in Alberta indicates that it is certain formations of Cretaceous age that will hold the oil. The rocks at the surface in the sections owned by this company are Pre-Cambrian limestones that have been thrust eastwardly over the beds of Cretaceous age. In order to reach the oil reserve in the vicinity of Oil Creek it will be necessary to drill through the overlying limestones of Pre-Cambrian age into the shales and sandstones of Cretaceous age below the thrust fault.

"In a well drilled by the Western Coal & Oil Co. a few years ago near Cameron Falls, on the Oil Creek anticline, the drill passed from the harder Pre-Cambrian limestone into the softer Cretaceous shales below the thrust at a depth of 1,600 feet. These black shales were examined by the members of the geological survey and were described as belonging to the Benton series of shales which overlie the sandstones of the Dakota formation. The Cretaceous series in Alberta is subdivided into the following formations: Bearpaw shales, Belly River (Judith River) sandstones, Claggett shales, cardium sandstones, Benton

shales, Dakota sandstones, Kootenai shales and sandstones.

"The most natural place to expect an accumulation of oil is in the sandstones that would act as a sponge to soak up any petroleum products that rose towards the surface. The limestones in these sections are too compact to contain oil so that it will be necessary to drill through these beds into the underlying shales and sandstones before any quantity of oil can be reasonably expected. The valley of Oil Creek below the point where it turns to the southeast in Section 3 follows along the axis of a well-defined anticline, so that the limestones overlying the Cretaceous beds will have the least thickness on or near the axis of the fold.

"The most favorable part of Sections 30 and 32 is that situated on or quite close to the edge of Oil Creek. In other portions of these sections the limestones are too thick to attempt to drill through them."

OKLAHOMA FIELDS

(Continued from Page 50)

age of 3,078 bbls. from three wells. The only test completed in the area last week was a gas well. Development in the area increased to 40 operations. The present producing wells have been curtailed 20 per cent effective January 11. Production is now believed to be coming from the Cromwell sand and has been holding steadily the last week. The wells now producing in the pool are the E. L. Harris and others' No. 1 Harjoche in Section 8-6-6, which was making 1,739 bbls., and the No. 2 Harjoche, 395 bbls.; Empire Oil & Refining Co.'s No. 1 in Section 9-6-6, 1,090 bbls. McCulloch Oil Co.'s No. 1, SE cor. SW NE Section 8-6-6, has been shut in as a gas well. It gauged 15,000,000 feet. Independent Oil & Gas Co.'s No. 1 in Section 8-6-6 has corrected top of sand at 2,885 feet and is landing the 6-inch casing at 2,885 feet after coring from 2,885 to 2,890 feet, with a showing of oil.

The East Earlsboro Pool had the largest increase in production for the week ending January 8 that any of the pools in the Greater Seminole area has had for several months. The pool gauged 71,864 bbls. on January 6, which was a new peak, from 110 wells. Shell Petroleum Corp.'s No. 7 Hopper, SW cor. SE NE Section 19-9-6, made as high as 7,513 bbls. in 24 hours from the Wilcox sand at 4,147-74 feet with the well on the gas lift. Independent Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Fixico, NW cor. SW NW Section 20-9-6, flowed 3,557 bbls. from the Wilcox sand at a total depth of 4,233 feet. Carter Oil Co.'s No. 1 in the NE cor. SW Section 16-9-6, on the east side of the pool, has been plugged back to 3,510 feet, and shot from 3,450-3,510 feet, with nothing showing. A number of the drilling tests in the Earlsboro townsite were shut down on account of water shortage, which has prevailed in that area for several weeks. Operators with drilling tests in the townsite may be obliged to drill their own water wells.

East Little River Declines

The only pool in the Greater Seminole area showing a decline that amounts to anything is the East Little River Pool. Production in the pool declined about 4,500 bbls. daily in the week ending January 8. The Mid-Continent Petroleum Corp.'s No. 13 Smith, in Section 5-7-7, which found oil in the Cromwell sand, and has been shut in for some time, was opened up January 10, and gauged 2,180 bbls. in 31 hours. The Cromwell sand was found at 3,190-3,200 feet, with an initial production of 2,680 bbls. Several offset rigs have been moved in. Gypsy Oil Co. has two new rigs for twin wells, offsetting the well on the south and Sinclair Oil & Gas Co. may move in two rigs on the east. Gypsy Oil Co.'s No. 5 Davis, (a twin well) NE cor. SW SE, Section 5-7-7, and No. 6 Davis, NW cor. SW SE, Section 5-7-7, also a twin well. Mid-Continent Petroleum Corp.'s No. 14 Smith, (a twin) SW cor. NE SE, Section 5-7-7, is rigging up.

Little River Reviving

With production showing a 5,000-bbl. daily increase in the old Little River Pool, for the first time in several months operations were increasing. Gypsy Oil Co.'s No. 5 Renton, in Section 11-7-6, made 2,452 bbls. in 24 hours, from a total depth of 3,096 feet. The well was making 115 bbls. an hour on January 10. Carter Oil Co.'s No. 4 Walker, in Section 24-7-6, was shot with 20 quarts in the Wilcox sand at 4,125-45 feet, and had 1,500 feet of oil in the hole. Empire Oil & Refining Co.'s No. 3 Charity, in Section 24-7-6, swabbed 502 bbls. in 17 hours from the Wilcox sand at a total depth of 4,184 feet. Wofford Drilling Co.'s No. 1 Davis, SE cor. NW, Section 29-8-7, northeast of the Little River Pool, cored a sand at 3,274-84 feet, with a showing of water and was drilling deeper at 3,353 feet.

The Maud Pool had an increase of 1,000 bbls. daily over the previous week's gauges. Most of the increase was due to several wells in the pool being completed in the same week.

In the Mission Pool production increased 400 bbls. daily from the previous week's gauges. Some of the older wells were cleaned out, which increased their output. Gypsy Oil Co.'s No. 9 Barkus, NW cor. SW SW, Section 6-8-6, was drilling at 5,798 feet, in lime January 10. It is the deepest drilling test in the Greater Seminole area. The test was carrying about 5,000 feet of water.

The St. Louis Pool which has been declining shows an increase of about 800 bbls. daily over the previous week. The average daily production was 48,451 bbls. from 453 wells. Two more locations were made by the Magnolia Petroleum Co., No. 3 Richardson, SE cor. SW SW, Section 15-7-4, and No. 3 Singletarry, SW cor. SE SW, Section 15-7-4, Atlantic Oil Producing Co. and Wofford Drilling Co.'s No. 1 McGee, NE cor. NW SE, Section 4-7-4, made 1,165 bbls. on January 10. Magnolia Petroleum Co.'s No. 1 Jordan, in Section 12-7-4, has been plugged to 4,150 feet, and flowed 80 bbls. from the Hunton lime. Prairie Oil & Gas Co.'s No. 1 Meyers, NW cor. SW SE, Section 32-7-4, on the south edge of the field, swabbed 50 bbls. and no water January 10.

Production in the Allen Pool was increased about 5,000 bbls. over the previous week. Wilcox sand production has been found in several scattered places in the area. Mid-Continent Petroleum Corp.'s No. 1 A. Harjo, in Section 14-5-7, swabbed 100 bbls. from the Wilcox sand at a total depth of 4,302 feet. Sam company's No. 17 Fleet, Section 7-5-8, was drilling in Sylvan shale at 4,140 feet, and carrying 1,500 feet of water.

Western Deep Tests

The wildcats in the northwestern part of Oklahoma were drilling deeper. The deepest test in the area is the Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW, Section 14-26-24w, Harper County, was drilling at 6,418 feet, with nothing showing. Same company's No. 1 Stewart, NW cor. SW SW, Section 33-27-16w, Woods County, was drilling at 6,055 feet. Bu-Vi-Bar Petroleum Corp. and Prairie Oil & Gas Co.'s No. 1 fee, C SW SE, Section 10-25-15w, Woods County, was drilling at 6,068 feet. Prairie Oil & Gas Co.'s No. 1 Wilbur, NE cor., Section 23-23-17w, Woodward County, was shut down at 5,972 feet. Peerless Producing Co.'s No. 1 Crowell, C NW NE, Section 24-28-16w, Woods County, was drilling at 2,675 feet. Harris & Haun's No. 1, Section 9-23-20w, Woodward County, was shut down at 4,950 feet.

Gypsy Oil Co.'s No. 1 Bilderbeck, NW cor. SE SE SE, Section 27-28-7w, Grant County, a wildcat test in the northern part of the county near the state line, was still drilling on cement at a total depth of 5,087 feet.

Greater Seminole Production

Production of the important pools in the Greater Seminole area averaged 32,060 bbls. over the previous week's gauges. Production of the first 11 pools in the list which comprise the Seminole area had a daily average of 243,607 bbls. from 1,802 wells. The daily average gauges were as follows:

Pool—	Wells	Bbls.
Little River	349	44,151
East Little River	54	19,429
Carr City	57	7,483
Maud	138	7,966
Mission	110	14,833
Bowlegs	294	24,846
Earlsboro	300	33,533
Eas. Earlsboro	110	53,357
Seminole	273	24,963
East Seminole	31	4,857
Searight	86	8,159
Allen	243	26,063
Asher	27	3,078
St. Louis	453	48,451
Sasakwa	40	12,407
Total	2,565	333,606

Shipments Out of Seminole

The daily average pipe line and tank car shipments from the Seminole area show a large increase over the previous week. The increase amounts to approximately 25,000 bbls. daily. The total shipments for the week ending January 8 were as follow:

Company—	Bbls.
Barnsdall	4,324
Champlin	4,073
Continental	419
Consolidated	742
Cosden	9,221
Empire	5,621
Gulf	36,271
Magnolia	8,740
Oklahoma	43,396
Prairie	38,449
Producers & Refiners	2,210
Pure	4,115
Shaffer	6,201
Shell	14,724
Sinclair	42,436
Texas	14,649
Tidal	15,467
White Oak	666
Total	251,765
Tank cars	6,696
Grand total	258,461

Canadian County

A. D. Spears' No. 1 Piatt, SW cor. NE, Section 9-14-6w has been abandoned at 3,223 feet.

Cotton County

Barnsdall Oil Corp. is moving the tools in at No. 6 Lawler, NW cor. NE NW SE, Section 33-1s-10w. Perkins & Cullum's No. 1 Humphries, SE cor. NE NW, Section 35-1s-10w is drilling at 600 feet. Silurian Oil Co. & Perkins and Cullum's No. 4 Chambers, CNL NE NW, Section 2-2s-10w is drilling at 700 feet. American Refining Co.'s No. 1 Miller, SE cor. SW, Section 9-5s-12w has drilled to 2,085 feet and shut down.

Garvin County

C. R. Obermeyer's No. 1 Stricklin, NE cor. SW, Section 10-4-3 is drilling at 140 feet. Magnolia Petroleum Co.'s No. 6 Harris, SE cor. SW NW, Section 16-1-3w has been abandoned at 2,568 feet.

Hughes County

W. B. Pine's No. 2 Welch, SW cor. SE NE, Section 6-8-9 is dry and abandoned at 3,478 feet.

Jefferson County

O. V. Beck has the rig up for No. 7 Seay, SW cor. NE SE SW, Section 34-6s-5w. No. 6 Seay, NW cor. NE SE SW, Section 34-6s-5w has been completed for 300 bbls. in sand 1,532-48 feet.

Kiowa County

Mesa Oil Co.'s No. 1 Greenlee, NW cor. Section 13-6-17w is rigging up. Alexander and others' No. 1 Dittmar, NW cor. SE, Section 18-6-16w is rigging up. W. C. Adams' No. 2 Brazil, SW cor. NE, Section 34-7-17w has been abandoned at 926 feet.

Logan County

Skelly Oil Co. and Independent Oil & Gas Co.'s No. 1 Elrod, NE cor. SW, Section 31-19-4w Roxana Pool made 187 bbls. in Wilcox sand 6,055-69 feet.

Kay County

Nickolas & Riggs' No. 1 Hankle, SW cor NW NW, Section 3-26-3 is a dry hole at 2,430 feet.

Marshall County

W. F. Dennis moved a machine to the location for No. 1 McComas, NW cor. SW NE SW, Section 13-5s-5. Lee and others' No. 1 Hilburn, SE cor. NE SE, Section 22-5s-5 is drilling at 150 feet. F. W. Merrick's No. 2 Null, SE cor. NW NW, Section 24-5s-5 is a machine. Max Westheimer has a machine in for No. 1 Watts, NW cor. NE, Section 26-5s-5. Carter Oil Co.'s No. 3 Davidson, NW cor., Section 30-5s-6 is a machine. Golden Rule Oil Co.'s No. 1 Reeves & Gray, NW cor. SE NE, Section 19-6s-6 is drilling at 65 feet. F. W. Merrick's No. 1 Null, NE cor. NW NW NW, Section 24-5s-5 has been completed for 83 bbls. in sands 588-92 feet and 608-28 feet. Max Westheimer's No. 1 Null, NE cor. SW NW, Section 24-5s-5 made a 13-bbl. well in sand 567-70 feet, total depth 623 feet.

Pontotoc County

Benedum & Trees Oil Co.'s No. 2 Browall, NE cor. NW, Section 31-5-5 Bebee Pool, is a rig. Delaney & King moved a machine in for No. 1 Adams, SW cor. SE NE, Section 32-5-8. Denver Producing & Refining Co.'s No. 1 Hicks, SE cor., Section 25-5-4 has been completed for 167 bbls. in Viola lime, 2,470-2,630 feet. Texas Pacific Coal & Oil Co.'s No. 2 Hatcher, NE cor NW NE, Section 30-5-5 Bebee Pool made 145 bbls. in Viola lime, 2,358-2,492 feet. Universal Oil Co.'s No. 3 Broughton, SW cor NW SW NW, Section 36-5-6 swabbed 20 bbls. a day from sand 2,038-58 feet. Royalty Oil & Refining Co.'s No. 2 Broughton, NW cor. SE NE, Section 36-5-6 is a 5 bbl. well in sand 1,638-40 feet. Homaokla Oil Co.'s No. 1 Busby, NE cor. NW, Section 3-4-8 has been abandoned at 1,567 feet.

Creek County

Phillips Petroleum Co. and Gled Oil Co. made location for No. 4 Koch, SW cor. NE NE, Section 20-19-9. J. W. Merritt and others' No. 1 Richards, NW cor SE NE, Section 27-18-8 is a location. Caseboldt and others' rig is up for No. 1 Kellyville townsite, NE cor., Section 23-17-10. Franchott Oil Co. has built the rig for No. 6 Scott, C NW SE, Section 28-16-9. J. W. Merritt and others' No. 2 Brown, NE cor. SW NE, Section 27-18-8 has been completed for 30 bbls. in sand 1,312-35 feet. Magnolia Petroleum Co.'s No. 10 U. Eagle, CWL NW NW, Section 27-17-7 has been completed for 2 bbls. in sand 2,370-2,410 feet. Transcontinental Oil Co.'s No. 1 Williams, NW cor. SE, Section 15-16-9 made a 30-bbl. well in Dutcher sand 2,961-71 feet.

Grant County

Continental Oil Co. and Waggoner's No. 3 Frantz, C SW SE, ection 35-28-3w has been completed for 9,000,000 feet of gas in sand 4,140-97 feet. Champlin Oil & Refining Co.'s No. 1 Crabb, NW cor. SE SW, Section 36-28-3w has been abandoned at 4,780 feet.

Le Flore County

Le Flore County Gas & Electric Co. has moved the rig in for No. 1 McBee, NW cor., Section 3-7-21.

Lincoln County

Meade Brothers' No. 2 Meadville, SE cor. SW, Section 25-17-3 has been shut in for 11,500,000 feet of gas in sand 3,876-3,915 feet. Phillips Petroleum Co.'s No. 1 Robertson, SE cor. NW, Section 29-12-3 has been abandoned at 5,717 feet.

Logan County

Shell Petroleum Corp.'s No. 3 Storey, SW cor. SE SW, Section 30-19-4w Roxana Pool made 1,021 bbls. in Wilcox sand 5,965-94 feet.

Muskogee County

Arthur Oil Co.'s No. 10 Spaulding, NE cor. SE NW NE, Section 34-15-18 is spudding. R. H. Kimsey moved a machine in for No. 1-A Crittenden, CEL SW NE, Section 5-14-19. J. R. Parks, No. 1 Jefferson, SE cor. NE NE SW, Section 7-15-15 has been abandoned at 2,066 feet. Babcock Brothers' No. 3 N. Barnett, NE cor. SW NE, Section 8-15-15 made a 50-bbl. well in sand 1,580-1,620 feet. Bryan Petroleum Co.'s No. 2 W Grayson, CWL SW NW, Section 9-15-15 is dry and abandoned at 1,689 feet. E. Mills and others' No. 4 C. Jordan, SE cor., Section 14-13-18 has been completed for 1,500,000 feet of gas in sand 550-72 feet.

McIntosh County

Hansfield Producing & Royalty Co.'s No. 2 Bray, C NE NE, Section 10-12-15 is drilling at 820 feet. Western Natural Gas Co.'s No. 2 C. Coon, NW cor. SE NW, Section 21-11-17 has been abandoned at 611 feet.

Noble County

Gypsy Oil Co. and others made location for No. 1 Berstram, SE cor. NW, Section 28-22-1w.

Oklahoma County

J. F. Cuniff, trustee and others' No. 1 St. Joseph Orphanage, NE cor. SW SE, Section 17-12-4w is a cellar. Skelly

Oil Co. has the cellar dug for No. 1 Dunn, CEL NW SW, Section 1-11-3w Oklahoma City Field. T. B. Slick made a location for No. 1 Watrous, NW cor. SW, Section 1-11-3w. T. B. Slick and Atkinson staked location for No. 1 Curtis, NE cor. NW SW, Section 1-11-3w. Mid-Texas Petroleum Co.'s No. 1 Community, NE cor. SE NE NW, Section 1-11-3w is spudding. Wirt Franklin Petroleum Corp. has dug the cellar for No. 2 Theimer, NE cor. SE, Section 2-11-3w. Indian Territory Illuminating Oil Co. and others made location for No. 1 Precure, SE cor. Section 11-11-3w. Location was made for No. 1 Trosper Hughes, SE cor. NE SE, Section 11-11-3w. No. 1 C. E. Trosper, NE. cor. SE, Section 11-11-3w is a cellar. The cellar has been dug for No. 2 Ferndale, SE cor. NE, Section 11-11-3w. Cromwell-Franklin and others' No. 17 Trosper Park, SE cor SW NW, Section 12-11-3w is a cellar. Indian Territory Illuminating Oil Co. and others dug the cellar for No. 2 L. Trosper, SW cor. NW, Section 12-11-3w. No. 3 A. Brokaw, SW cor. NE NE, Section 13-11-3w is a cellar. No. 3 C. Brokaw is a cellar, NW cor. SE NE, Section 13-11-3w. Location has been made for No. 1 Foster-Worley Heights, NE cor. NW SW, Section 24-11-3w. No. 9 Nettie Emmerson, NW cor. SW SW, Section 30-11-2w is a location. Location has also been made for No. 10 Nettie Emmerson, SE cor. NE SW, Section 30-11-2w. T. B. Slick and others made location for No. 5 Hoopes, SE cor. NE, ecStion 31-11-2w.

Indian Territory Illuminating Oil Co. and others' No. 1 Thomas Fuzzell, SW cor. SE SE, Section 13-11-3w made 43,-557 bbls. from 6,542 feet. No. 2 Trosper, SW cor. Section 13-11-3w was drilled to 6,391 feet and made 19,722 bbls. No. 3 Trosper, SE cor. SW, Section 13-11-3w has been completed for 8,627 bbls. at 6,500 feet. Indian Territory Illuminating Oil Co. and others' No. 2 Verne, NE cor. SW SE, Section 13-11-3w, has been completed for 33,049 bbls. at 6,535 feet. Mid-Kansas Oil Co.'s No. 1 Mollman, SE cor., Section 23-11-3w made 1,476 bbls. at 6,400 feet. Coline Oil Co.'s No. 2 Olds, C NE NW, Section 24-11-3w had sand 6,323-42 feet and made 4,716 bbls. No. 3 Olds, NW cor., Section 24-11-3w has been completed for 12,197 bbls. in sand 6,409-37 feet. Indian Territory Illuminating Oil Co. and others' No. 2 Fortson-Farley, NE cor., Section 24-11-3w, made 42,584 bbls. at 6,525 feet. No. 1 E. Fortson, SE cor. NE, Section 24-11-3w has been completed for 16,160 bbls. at 6,525 feet. Mid-Kansas Oil Co.'s No. 4 Fortson, NE cor. NW NE, Section 24-11-3w, has been completed for 3,242 bbls. at 6,571 feet. No. 5 Fortson, SE cor. SW NE, Section 24-11-3w drilled to 6,562 feet and was completed for 6,256 bbls. Indian Territory Illuminating Oil Co. and others' No. 1 Foster, C NE SW, Section 24-11-3w has been completed at 6,790 feet for 742 bbls. No. 1 Speegle and others, SW cor., Section 24-11-3w made 1,298 bbls. at 6,400 feet. No. 1 Williamson-Canfield, SE cor SW, Section 24-11-3w made 178 bbls. gasoline in 15 hours at 6,383 feet. No. 2 Watters, NW cor. NE, Section 25-11-3w has been completed for 1,420 bbls. at 6,412 feet. Sinclair Oil & Gas Co.'s No. 1 School land, NE cor., Section 36-11-3w flowed 6,635 bbls. in sand 6,394-6,420 feet. Coline Oil Co.'s No. 2 Warren, NW cor. SW, Section 18-11-2w produced 25,517 bbls. at 6,540 feet. Mid-Kansas Oil Co.'s No. 1 J. Browning, SW cor. NW, Section 18-11-2w has been completed for 11,575 bbls. at 6,522 feet. Sinclair Oil & Gas Co. and Amerada Petroleum Corp.'s No. 2 Kinter, SW cor. SE, Section 30-11-2w has been completed for 7,565 bbls. at 6,355 feet. Shell Petroleum Corp.'s No. 4 Petty, SW cor. NW NE, Section 30-11-2w made 1,218 bbls. at 6,592 feet. Indian Territory Illuminating Oil Co. and others' No. 1 Nettie Emmerson, NE cor. SW, Section 30-11-2w has been completed for 748 bbls. at 6,412 feet. No. 2 S. Bodine, SE cor. NW NW, Section 30-11-2w drilled to 6,637 feet and made 646 bbls. The Prairie Oil & Gas Co. and T. B. Slick's No. 4 Hiddleston, NW cor. SW SE, Section 19-11-2w made 15,795 bbls. in lime 6,090-6,540 feet.

Osage County

Peters Petroleum Corp. and others moved a machine in for No. 7 C SW, Section 22-27-11. No. 9 NE cor. SE SE, Section 22-27-11 is also a machine. Utilities Producing Co.'s No. G-1 NE cor. NW NE SE, Section 1-26-6 is rigging up. Kewanee Oil & Gas Co.'s No. 1 SW cor. SE NW, Section 33-26-6 is a cellar. The Prairie Oil & Gas Co. made location for No. 6 NE cor. NW NW, Section 31-25-8. F. J. Carroll moved a machine in for No. 3 CEL W half SE, Section 15-24-8.

J. J. Fitzstephens' No. 2 NW cor NE SW, Section 16-28-8 has been completed for 15 bbls. in Burgess sand 2,397-2,422 feet. Kewanee Oil & Gas Co.'s No. 10 NW cor. SE SE, Section 34-27-6 made 10 bbls. in Burbank sand 2,825-2,920 feet. Indian Territory Illuminating Oil Co.'s No. 421 NW cor. NE NE NW, Section 26-27-11 made 750,000 feet of gas in sand 1,886-1,925 feet. Peters Petroleum Corp.'s No. 4 SW cor. NE NW, Section 27-27-11 has been completed for 100 bbls. in Bartlesville sand 1,655-76 feet. Stanley and others' No. 2 SW cor,, Section 10-25-8 is dry and abandoned at 1,100 feet. F. J. Carroll's No. 2 SE cor. NW SE, Section 15-24-8 made 70 bbls. in sand 2,254-64 feet. Galt Brown Oil Co. and others' No. 1 NW cor. NE, Section 30-24-8 is dry and abandoned at 2,795 feet. Indian Territory Illuminating Oil Co.'s No. 424 SE cor. SW SE NW, Section 8-24-9 has been completed for 5,250,000 feet of gas in sand 814-36 feet. Barnsdall Oil Co.'s No. 6 NE cor. SE NE, Section 27-22-10 is a dry hole at 2,437 feet. Oklahoma Natural Gas Corp.'s No. 1,748 SW cor. SE SE NW, Section 5-21-11 has been abandoned at 1,687 feet in Burgess sand.

Okfuskee County

Tidal Oil Co. and others' No. 1 Barnett, SE cor. NE NE, Section 30-12-9 has been completed for 3,000,000 feet of gas in Hunton lime, 3,945-79 feet after plugging back from 4,126 feet. H. H. Diamond Oil Co.'s No. 1 Rodgers, NW cor. SE NW, Section 10-11-12 has been abandoned at 3,765 feet.

Okmulgee County

Dodge, Chaney & Jenkins' No. 1-A Fee, SW cor. SE, Section 28-15-12 is drilling at 550 feet. Kirkland & Son's No. 2 Carr, SW cor. NW SW, Section 17-15-13 made 10 bbls. in sand 1,645-52 feet. J. A. Swindler's No. 3 Scott, CEL SE SE, Section 36-15-14 made 3,000,000 feet of gas in sands 1,460-85 feet and 1,585-95 feet. Morrison & Eberly's No. 2 Burgess, NW cor. NE NW, Section 20-12-13 has been completed for 750,000 feet of gas in sand 1,100-36 feet. No. 2 Silspee, SE cor. NE NW NW, Section 20-12-13 made 8 bbls in sand 1,940-60 feet.

Pawnee County

P. J. Breslin and others' rig is up for No. 1 Koup, SE cor. SW SW, Section 31-21-8. O. O. Owen's No. 1 Bentley, SE cor. NE, Section 36-20-6 is dry and abandoned at 3,337 feet. Foster Petroleum Co.'s No. 8 Little, SE cor. NW NW, Section 6-20-8 made 210 bbls. in Tucker sand, 2,678-92 feet. Sheeders and others' No. 1-A Gifford, CWL SE NE, Section 12-20-8 is dry and abandoned at 2,950 feet. Thompson & Black's No. 1 Mote, NE cor. SW SW, Section 14-20-9 is dry and abandoned at 1,429 feet. No. 1 Fleming, SE cor. NE SE, Section 15-20-9 has been completed for 1,000,000 feet of gas in sand 927-34 feet. C. C. Chamberlain's No. 2 Coats, CSL SW NW, Section 26-20-9 made 8 bbls. in Red Fork sand 2,135-58 feet. Hay and others' No. 4 Copeland, CWL NW SW, Section 26-20-9 has been completed for 25 bbls. in sand 2,143-63 feet.

Payne County

Magnolia Petroleum Co. made location for No. 6 Payne, NE cor. SE NE, Section 6-17-4.

Pottawatomie County

J. H. Gwin Drilling Co. is erecting the rig for No. 1 Earlsboro Townsite, Block 9 Lot 4, SE cor NW SW NW, Section 8-9-5. McMan Oil Co. and White Eagle Oil & Refining Co.'s No. 3 Roberts, NE cor. SW, Section 9-8-5 is a rig under construction. Stauffer and others' No. 1 Asher Townsite Block 29, SE cor. SW, Section 12-6-4 is a cellar. Empire Oil & Refining Co. and Amerada Petroleum Corp.'s No. 3 Bullock, SE cor NE NW, Section 8-9-5 Earlsboro Pool has been completed for 705 bbls. in Wilcox sand 4,342-64 feet. The Texas Company's No. 1 Goodin, SE cor. NE SW, Section 35-8-4 made 35 bbls. from Hunton lime 3,803-3,939 feet. Gypsy Oil Co.'s No. 3 Gossland, NE cor. NW SW, Section 9-8-5 Maud Field has been completed for 620 bbls. in Hunton lime 4,044-46 feet. Atlantic Oil Producing Co. and Champlin Oil & Refining Co.'s No. 1 Bewley, SE cor. NW SE, Section 9-7-4 St. Louis-Pearson Pool is dry and abandoned at 4,405 feet. The Prairie Oil & Gas Co.'s No. 1 Bodkin, SW cor. NW NE, Section 1-7-4 has been abandoned at 4,498 feet. Magnolia Petroleum Co.'s No. 2 Hilton, SE cor. NW NW, Section 22-7-4 made 440 bbls. from Simpson sand 4,135-50. Interocean Oil Co.'s No. 2 Coley, SW cor. NE SE, Section 24-7-4 had Simpson sand 4,130-78 feet and flowed 40 bbls. from Hunton lime 3,670-3,925 feet. Superior Oil Corp. and others' No. 1 Sunday, SE cor., Section 25-5-5 Bebee Pool has been abandoned at 3,085 feet.

The Prairie Oil & Gas Co.'s No. 2 McGee, SW cor SE NW, Section 4-7-4 is setting surface pipe.

Seminole County

McMan Oil Co. is erecting the rig for No. 2 Jones, SW cor. SE NW, Section 20-9-6. Carter Oil Co. made location for No. 3 Campbell, NE cor. NW SW, Section 20-9-6 East Earlsboro Pool. Location has been made for No. 4 Campbell, NW cor. NE SW, Section 20-9-6. Independent Oil & Gas Co. and Atlantic Oil Producing Co.'s No. 4 L. Fixico, SE cor. SW NW, Section 20-9-6 is a rig going up. Independent Oil & Gas Co. and others made location for No. 1 Jones, NW cor SE NW, Section 30-8-7. The Prairie Oil & Gas Co. is building the rig for No. 8 Baker, NE cor. SE NE, Section 24-9-5. Empire Oil & Refining Co. made location for No. 5 Coker, NE cor SE SW, Section 13-7-6 Little River Pool. Amerada Petroleum Corp. and Dixie Oil Co.'s No. 2 Billington, NE cor SW NE, Section 24-7-6 is a rig under construction. Mid-Continent Petroleum Corp. made location for No. 4 Yarhola, NW cor. SE NE, Section 8-7-7 East Little River Pool. The Prairie Oil & Gas Co. made location for No. 4 Reed, SE cor NW, Section 13-7-6 Little River Pool. The Prairie Oil & Gas Co. and T. B. Slick No. 1 Nora, SW cor. NW NE, Section 9-6-6 Konawa Pool is a rig being built. Pure Oil Co. made location for No. 1 Maupin, SE cor NE, Section 7-6-6. Mid-Continent Petroleum Corp. moved the rig in for No. 2 Harjoche, NE cor. SW SE, Section 8-6-6. Location has also been made for No. 3 Harjoche, SE cor. SW SE, Section 8-6-6. E. L. Harris and others' No. 3 Harjoche, SE cor., Section 8-6-6 is a rig on the ground. The cellar has been dug for No. 4 Harjoche, SW cor. SE SE, Section 8-6-6. Location has been made for No. 5 Harjoche, NW cor. SE SE, Section 8-6-6. No. 6 Harjoche is a location SW cor NE SE, Section 8-6-6. Champlin Oil & Refining Co. and Shell Petroleum Corp. made location for No. 2 Sachemeche, SW cor., Section 9-6-6. Champlin Oil & Refining Co. and Empire Oil & Refining Co. made location for No. 3 Sachemeche, SW cor., Section 9-6-6. McCulloch Oil Co. has the rig on the ground for No. 1 Robert, NW cor. Section 16-6-6. The rig is also on the ground for No. 1 Cutetake, NW cor. NE SW, Section 16-6-6. Independent Oil & Gas Co.'s No. 1 Okfuskee, NW cor. SW NW, Section 16-6-6 is a rig on the ground. Magnolia Petroleum Co. made location for No. 1 Johnson, NE cor. SW NW, Section 17-6-6. Gypsy Oil Co. moved the rig in for No. 1 Warren, NW cor. NE NE, Section 17-6-6. The Texas Company has the rig on the ground for No. 1 Harjoche, NE cor. NW NE, Section 17-6-6. The Prairie Oil & Gas Co.'s No. 1 Griffin, NE cor., Section 17-6-6 is rigging up. Superior Oil Corp. made location for No. 1 Morgan, SE cor., Section 19-6-6. Hilton, Phillips and others moved the rig in for No. 1 Hyde, SE cor. NE, Section 20-6-6. Pure Oil Co. made location for No. 9 Bates, NE cor., Section 13-6-7 Sasakwa Pool. The rig is being built for No. 10 Bates, NE cor., Section 13-6-7. Carter Oil Co. made location for No. 4 Spillman, SW cor, Section 7-6-8.

Minnehoma Oil Co.'s No. 2 Noe, SW cor SE NW, Section 17-9-6 East Earlsboro Pool has been completed for 15 bbls. in Wilcox sand 4,259-75 feet. No. 4 Noe, SE cor. NW NW, Section 17-9-6 made 600 bbls. in Wilcox sand 4,207-22 feet. Magnolia Petroleum Co.'s No. 2 Panos, SW cor. NE NE, Section 18-9-6 has been completed for 638 bbls. in Wilcox sand 4,260-80 feet. No. 4 Panos, NW cor. NE NE, Section 18-9-6 made 314 bbls. in Wilcox sand 4,330-41 feet. Sinclair Oil & Gas Co.'s No. 2 Nichols, NW cor. NE, Section 19-9-6 flowed 2,230 bbls. in Wilcox sand 4,195-4,228 feet. Shell Petroleum Corp.'s No. 3 Hopper, NE cor SE NE, Section 19-9-6 made 7,446 bbls. from Wilcox sand 4,176-4,200 feet. Carter Oil Co.'s No. 1 Chowning, SW cor. NW SW, Section 19-9-6 made 805 bbls. from Wilcox sand 4,234-49 feet. Sinclair Oil Co.'s No. 2 Maley, SW cor. NW NW, Section 20-9-6 flowed 2,283 bbls. from Wilcox sand 4,234-49 feet. Sinclair Oil & Gas Co.'s No. 5 Jefferson, NW cor. NE SE, Section 23-5-7 has been completed for 2,200 bbls. in Wilcox sand 4,208-29 feet. The Prairie Oil & Gas Co.'s No. 3 Reed, SE cor. NW, Section 13-7-6 Little River Pool made 610 bbls. in Wilcox sand 4,135-41 feet. Continental Oil Co. and Shaffer Oil & Refining Co.'s No. 8 Harris, NE cor. NW SW, Section 4-7-7 East Little River Pool made 495 bbls. in Wilcox sand 4,192-4,201 feet. The Prairie Oil & Gas Co. and T. B. Slick's No. 1 Tiger, NE cor. NW NE, Section 8-7-7 has been completed for 27,500,000 feet of gas in Gilcrease sand 4,180-82 feet. Indian Territory Illuminating Oil Co.'s No. 2 Fleet, NE cor. NW SE, Section 13-6-7 made 548 bbls. in Wilcox sand 4,235-38 feet.

Stephens County

Magnolia Petroleum Co. made location for No. 1 Crews, NW cor. SE NE, Section 12-1s-4w. Murphy Oil Co. has the rig up to deepen No. 7 Fobb "B", SE cor. NW SW, Section 12-2s-8w. Wirt Franklin Petroleum Corp. and Gypsy Oil Co.'s No. 1 McPhail, NW cor. SE, Section 1-2s-7w is a rig under construction. Carter Oil Co.'s No. 2 Rucktashel, NE cor. NW NE, Section 11-1s-4w is dry and abandoned at 3,775 feet. Twin State Oil Co.'s No. 1 Davidson, SE cor. Section 11-3s-8w has been abandoned at 4,494 feet.

Wagoner County

J. Bremer and others' No. 1 Lewis, NW cor. SW NE, Section 31-18-18 is dry and abandoned at 280 feet. Bryan Petroleum Co.'s No. 1 Rothammer, SE cor SW SW, Section 1-16-15 has been abandoned at 1,927 feet. C. F. Finefield's No. 8 Vann, CNL SW, Section 22-16-19 made 20 bbls. in sand 811-32 feet.

Woodward County

Otstot Development Co.'s No. 1 Simmons, SE cor., Section 32-24-17w has been abandoned at 1,500 feet. Sharon Oil Co.'s No. 1 Elmore, NE cor. SW SW, Section 25-21-21w is a dry hole at 2,772 feet.

PRODUCTION OF SEMINOLE POOL

Average daily production of the Seminole area for the week ending January 6:

Little River Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Nitey	2-7-6	3	347
Amerada-Wilcox:			
Fore	35-8-6	2	46
Barnsdall:			
Cotcha	23-7-6	3	300
Factor	13-7-6	1	108
Hotulka	22-7-6	3	327
Walker	4-7-6	1	11
Blackwell:			
Baker	11-7-6	5	489
Nitey	35-8-6	5	124
Talley	14-7-6	4	851
Thomas	11-7-6	1	Off
Bryan-Emery:			
Carter	4-7-6	1	13
Carter:			
Alec	23-7-6	2	105
Cotcha	23-7-6	3	80
Cudjo	23-7-6	3	91
Factor	26-7-6	1	27
Fish	36-8-6	3	193
Harjo, C	11-7-6	2	1,560
Harjo, M.	13-7-6	4	219
Jackson	11-7-6	5	1,059
Larney, B	26-7-6	2	132

Company, farm—	Location	Wells	Prod.
Larney, J.	24-7-6	4	900
Lena	10-7-6	1	256
Moore	11-7-6	2	80
Tewee	14-7-6	6	541
Thomas, M.	11-7-6	1	171
Walker	24-7-6	3	2,355
Wilson	12-7-6	1	92
Champlin:			
Tewee	14-7-6	3	648
Continental:			
Cosar, L.	36-8-6	7	708
Cosar, M	25-8-6	1	163
Milsey	11-7-6	2	245
Empire:			
Charty	24-7-6	1	514
Coker	13-7-6	2	322
Cotcha	27-7-6	2	12
Sandlin	3-7-6	1	8
Gypsy:			
Brown, C.	33-8-6	1	240
Brown, M.	33-8-6	1	123
Campbell	36-8-6	1	6
Conard	22-7-6	2	47
Cosar, W.	36-8-6	2	94
Cotcha	23-7-6	13	949
Denmark	13-7-6	3	242
Hulhoke	14-7-6	10	745
Nungee	1-7-6	1	Off
Potty	36-8-6	4	281
Renton	11-7-6	4	867
Willie	24-7-6	1	3,281
Independent:			
Carpenter	27-7-6	2	232
Davis, R.	13-7-6	7	807
Tewee	14-7-6	6	812
Harris	23-7-6	13	1,249
Williams	15-7-6	1	299
Independent et al:			
Davis, L.	2-7-6	5	749
Reed	26-7-6	1	Off
I. T. I. O.:			
Campbell	1-7-6	1	252
Dungan	35-8-6	3	197
House, M. A.	1-7-6	1	14
House, W. E.	1-7-6	1	12
House, W. E. "B"	2-7-6	4	484
Hull	26-8-6	2	345
Jackson	1-7-6	3	191
McCulla	1-7-6	2	669
Niley	2-7-6	5	111
Phoebe "A"	36-8-6	1	14
Phoebe "B"	36-8-6	2	65
Soketeche	1-7-6	3	105
Magnolia:			
Cruse	2-7-6	4	460
Denby	11-7-6	4	192
Harjo "A"	14-7-6	2	60
Harjo "B"	14-7-6	2	88
Potty	35-8-6	4	Off
Magnolia:			
Reed	22-7-6	3	280
Mid-Continent:			
Bruner	11-7-6	4	91
Fleck	23-7-6	1	10
Wadsworth	36-8-6	4	36
Pine:			
Bean	13-7-6	3	206
Heyecka	26-8-6	7	719
Pine-Phillips:			
Potty	35-8-6	1	40
Prairie:			
Chilcoat	25-8-6	3	336
Coker	1-7-6	2	319
Gibson	14-7-6	5	643
Harris	14-7-6	4	601
House	2-7-6	4	81
Reed	13-7-6	2	431
Talley	14-7-6	5	698
Williams	15-7-6	2	153
Wood	26-7-6	3	98
Prairie-Amerada:			
Sunny	14-7-6	5	867
Prairie-Slick:			
Cudjo	26-7-6	4	416
Prod. & Ref.:			
Davis	13-7-6	1	677
Johnson	24-7-6	2	776
Moppin	24-7-6	2	138
Pure:			
Brinson	24-7-6	3	571
Cotcha	23-7-6	11	2,075
Harjo	11-7-6	5	1,030
Hollins	11-7-6	1	277
Reiter-Foster:			
Bunyard	14-7-6	2	445
Ritter	31-7-6	1	7
Shaffer:			
McCan	33-7-6	1	40
Shell:			
Ceaser	11-7-6	1	77
Glass	26-7-6	1	18
Hoiulka	23-7-6	5	671
Johnson	13-7-6	4	391
Sinclair:			
Blanton	11-7-6	1	303
Cosar	36-8-6	3	715
Haney	12-7-6	1	5
Tewee	14-7-6	2	875
Pompey	24-7-6	1	180
Skelly:			
Carl	14-7-6	2	819
Snowden-McSweeney:			
Tiger	13-7-6	2	35
Superior:			
Pulutka	31-8-6	1	2
Texas:			
Brooks	25-8-6	1	7
Coker	1-7-6	3	29
Janey	11-7-6	6	704
Texas-Independent:			
Hotulka, D.	23-7-6	7	846
Hotulka, H.	22-7-6	2	129
Tidal:			
House	1-7-6	1	168
Johnson	1-7-6	1	Off
Twin State:			
Lowe	25-8-6	1	11
Total		349	44,161

East Little River Pool

Amerada:			
Chilcoat	4-7-7	1	906
Continental et al:			
Harrison	4-7-7	5	1,335
Gypsy:			
Payne	5-7-7	6	1,869
Walker	5-7-7	3	810
Magnolia:			
Brame	8-7-7	2	12
Reed	31-8-7	1	26
Scikio	4-7-7	1	Off
Wolf	20-8-7	1	3
McCulloch et al:			
Harrison	4-7-7	1	Off
Mid-Continent:			
Smith	5-7-7	13	5,630
Yarhola	9-7-7	1	1,053
Prairie:			
Smith	5-7-7	3	1,739
Prairie-Slick:			
Carr	9-7-7	1	6
Tiger	8-7-7	1	13
Prod. & Ref.:			
Lusty	5-7-7	1	8
Sakteke	9-7-7	1	11
Thomas	5-7-7	2	440
Sinclair:			
Phillips	5-7-7	8	4,373
Texas:			
Chilcoat	4-7-7	2	1,146
Total		54	19,429

Carr City Pool

Barnsdall:			
Coker	11-8-5	9	201
Fife	14-8-5	2	95
Barnsdall et al:			
Tulley	10-8-5	1	110
Carter:			
Coker	2-8-5	2	407
Rogers	2-8-5	1	2,050
Empire:			
Cluck	11-8-5	13	2,112
Gypsy:			
Coker, Charles	10-8-5	1	Off
Coker, Chippy	2-8-5	1	511
Fife	14-8-5	1	12
I. T. I. O.:			
Simpson	10-8-5	1	Off
Tulley	10-8-5	1	Off
Magnolia:			
Fee	11-8-5	3	268
Killings	14-8-5	1	5
Prairie:			
Billington	11-8-5	10	683
Mitchell	15-8-5	1	58
Sinclair:			
Bean	11-8-5	5	576
Harjo, L.	11-8-5	4	295
Total		57	7,483

Maud Pool

Amerada:			
Ballard	1-8-4	1	46
Fehlig	7-8-5	1	31
Gossland	8-8-5	3	45
Gravel	1-8-4	1	8
Hallum	1-8-4	4	1,126
Smith	8-8-5	1	145
Amerada-Barnsdall:			
Wallace	17-8-5	4	138
Amerada-Hull:			
Green	20-8-5	3	45
Continental-Shell:			
Everett	18-8-5	2	20
Empire:			
Smith	8-8-5	2	476
Gypsy:			
Bourassa	7-8-5	4	48
Gossland	9-8-5	3	939
Miller	18-8-5	8	354
Independent:			
Harding	18-8-5	4	126
I. T. I. O.:			
State Land	16-8-5	1	73
Laurel O. & G.:			
Billington	18-8-5	3	125
Magnolia:			
Billington	8-8-5	4	46
Green	20-8-5	3	55
Magnolia-Gypsy:			
Smith	20-8-5	1	49
McMan:			
Roberts	9-8-5	1	240
Mid-Continent:			
Shelton	18-8-5	3	20
Phillips:			
Hudson	19-8-5	3	98
Wallace	17-8-5	2	18
Pine:			
Lingerfelt	18-8-5	2	140
Smith	8-8-5	2	206
Prairie:			
Campbell	18-8-5	8	90
Jordan	9-8-5	1	17
Prairie et al:			
Villines	20-8-5	1	2
Pure:			
Lindley	18-8-5	8	126
Urbanskey	19-8-5	2	25
Wiley	8-8-5	4	522
Shell:			
Jordan	9-8-5	4	1,219
Sinclair:			4
Bellars	19-8-5	10	234
Calvin	7-8-5	3	76
Lewis	6-8-5	2	10
Smith	9-8-5	1	160
Skelly-Lenox:			
Green	20-8-5	1	32
Skelly-Margay:			
Lingerfelt	18-8-5	4	83
Texas:			
Calvin	7-8-5	9	150
Tidal:			
Dunn	12-8-4	1	33
Everetts	18-8-5	2	32
Smith	8-8-5	1	32
Twin State:			
Colvin	7-8-5	2	66
Wilcox O. & G.:			
Smith	8-8-5	8	440
Total		138	7,966

Mission Pool

Amerada:			
Rice	5-8-6	2	290
Carter:			
Fuswa	18-8-6	3	401
Micco	8-8-6	2	102
Carter-Denver P. & R.:			
Melissa	9-8-6	1	553
Continental:			
Maines	7-8-6	4	610
Darby:			
Judy	1-8-5	1	44
Gypsy:			
Baby	6-8-6	1	15
Barkus, N.	6-8-6	10	1,650
Barkus, S.	7-8-6	1	12
Dosar	7-8-6	5	695
Hardy	7-8-6	5	334
Harjoche	7-8-6	3	8
Micco, L.	8-8-6	2	21
Mission	5-6-8-6	7	1,032
Mosar	1-8-5	4	251
Independent:			
Lawson	1-8-5	5	582
Independent-Kistler:			
Payne	7-8-6	3	709
McMahon:			
Harjo	7-8-6	2	610
Mid-Continent:			
Ripley	23-8-6	1	124
Minnehoma:			
Neal	7-8-6	4	459
Pine, W. B.:			
Harjo	6-8-6	3	902
Micco	8-8-6	1	23
Prairie:			
Crain	7-8-6	1	41
Melton	6-8-6	3	449
Micco	5-8-6	1	2
Townsend	6-8-6	2	311
Prairie-Gypsy:			
Owens	18-8-6	2	79
Prairie-Slick:			
Neally	12-8-5	1	143
Shaffer:			
Weaver	12-8-5	3	813
Shell-Continental:			
Hearndon	7-8-6	3	462
Shell-Papoose:			
Maines	7-8-6	8	721
Sinclair:			
Hardy	7-8-6	4	698
Judy	1-8-5	1	18
Tidal:			
Nellie	12-8-5	5	882
Twin State:			
Hayes	8-8-6	2	712
Judy	6-8-6	2	31
Ripley	12-8-5	2	28
Total		110	14,833

Bowlegs Pool

Amerada:			
Rascoe	15-8-6	6	411
Atlantic:			
Baker	10-8-6	4	175
Fleet	23-8-6	3	76
Grayson	13-8-6	3	352
Jones "A"	16-8-6	2	15
Barnsdall:			
McNac	28-8-6	1	17
Morrow	11-8-6	4	229
Carter:			
Bowlegs, I.	15-8-6	4	227
Burden	23-8-6	2	181
Harjoche	14-8-6	6	328
Hilly, D.	23-8-6	3	174
Jones	11-8-6	4	353
Walker	16-8-6	4	260
Wise	23-8-6	11	901
Dixie:			
Lizzy	11-8-6	1	5
Empire:			
Lacey	14-8-6	6	159
Wise	23-8-6	2	88
Gypsy:			
Cumsey	10-8-6	4	319
Grayson	13-8-6	4	352
Harjoche	10-8-6	3	282
Jones	11-8-6	1	30
Walker	15-8-6	7	695
Wise	23-8-6	2	94
I. T. I. O.:			
Barnett, A.	24-8-6	1	58
Barnett "B"	23-8-6	1	13
Billington	22-8-6	3	329
Bowlegs	22-8-6	9	891
Davis	13-8-6	4	33
Fay	13-8-6	9	808
Goforth	15-8-6	12	1,243
Livingston	15-8-6	10	1,205
Lizzie	11-8-6	3	271
Walker	15-8-6	8	993
Williams	12-8-6	1	183
Wilmot	15-8-6	4	277
Work	24-8-6	1	28
Youngblood	24-8-6	1	21
Magnolia:			
Davis, B. F.	13-8-6	3	Off
Davis, M.	13-8-6	1	10
Hammond	10-8-6	8	436
Rhodes	12-8-6	5	472
Vanburakirk	9-8-6	4	248
McCulloch:			
Bowlegs	22-8-6	1	15
Mid-Continent:			
Baker	10-8-6	4	121
Smith	12-8-6	6	390
Minnehoma:			
Bowlegs	13-8-6	1	Off
Prairie:			
Gahagan	23-8-6	3	112
Harber	10-8-6	8	1,039
Jones, G.	11-8-6	3	171
Jones, N.	3-8-6	1	155
Templeton	12-8-6	4	1,346
Whitney	23-8-6	4	265
Pure:			
Reed	14-8-6	14	1,501
Strothers "D"	14-8-6	4	250
Strothers "F"	10-8-6	7	1,495
Shaffer:			
Lacey	14-8-6	3	297
Shell-Houston:			
Taylor	16-8-6	5	2
Sinclair:			
Cumsey	10-8-6	4	588
Ellen	11-8-6	5	375
Harjo, E.	14-8-6	3	403
Jones	9-8-6	7	138
Taylor, M.	10-8-6	4	598
Taylor, W.	10-8-6	3	375
Walker, L.	22-8-6	4	610
Texas:			
Reed	14-8-6	11	493
Tidal:			
Grayson	13-8-6	4	267
Harjoche	10-8-6	6	608
Total		294	24,846

Earlsboro Pool

Amerada:			
Anderson	15- 8-5	1	176
Cowden	4- 9-5	7	811
Rogers	3- 9-5	2	69
Barnsdall:			
Brown	10- 9-5	3	643
Bruner, F.	2- 9-5	2	112
Bruner, N.	10- 9-5	2	148
Cudjo	14- 9-5	1	32
Davis, D.	11- 9-5	3	103
Davis, J.	11- 9-5	4	534
Davis, M.	11- 9-5	2	19
Gibson	9- 9-5	7	548
Hearn	15- 9-5	1	1
Ingram, J.	1- 9-5	6	152
Pack, S.	10- 9-5	3	47
Peter	10- 9-5	3	27
Sango	1- 9-5	2	524
Sobolka	15- 9-5	1	119
Sullivan	15- 9-5	1	2
Sull-Harjo	10- 9-5	2	11
Watsutka	12- 9-5	3	399
Burke-Greis:			
Wisener	6- 9-6	2	123
Burke-Greis-Red Bank:			
Mayes	1- 9-5	3	1,239
Carter:			
Cox	31-10-6	1	76
Davis, S.	13- 9-5	3	33
Gilliam	13- 9-5	2	771
James	6- 9-6	3	1,026
Shepherd	6- 9-6	2	225
Continental:			
Keys	2- 9-5	2	66
Spencer	12- 9-5	4	386
Cosden:			
Anderson	13- 9-5	2	619
Sarber	13- 9-5	1	34
Empire:			
Barker	12- 9-5	1	28
Edmundson	3- 9-5	2	26
Empire-Amerada:			
Bullock, W.	8- 9-5	3	427
Henry	8- 9-5	1	978
Empire-Continental:			
Anderson	13- 9-5	2	229
Empire-Gypsy:			
Keys	6- 9-5	1	29
Gypsy:			
Bruner	10- 9-5	4	375
Carter, B.	11- 9-5	7	1,079
Earl	16- 9-5	1	11
Hunick	5- 9-5	2	744
Noble	12- 9-5	3	294
Peter	10- 9-5	1	68
Sango	1- 9-5	11	1,322
State	16- 9-5	2	57
Wisener	1- 9-5	1	26
Easton Oil Co.:			
Blk. L. Earlsboro	8-9-5	1	470
Easton-C. E. Knox:			
Reade	8- 9-5	1	1,115
E. Haer:			
Haer	31-10-5	1	20
Hubble-Graham:			
Dobbs	8- 9-5	1	79
Independent:			
Bruner	10- 9-5	3	92
Sullivan	10- 9-5	1	10
Independent-Darby:			
Knapp	8- 9-5	2	370
Independent-Margay:			
Gaines	11- 9-5	3	101
Magnolia:			
Bryant	9- 9-5	5	29
Cowden	4- 9-5	1	Off
Dixon	4- 9-5	1	Off
Dixon	12- 9-5	1	14
Edmundson	3- 9-5	1	3
Germany, M.	30- 9-5	1	6
Gillian	13- 9-5	3	1,471
Homsley	11- 9-5	6	7
Hyde	13- 9-5	2	58
Ingram	10- 9-5	1	5
Lena	10- 9-5	3	36
Seay	12- 9-5	9	256
Simpson	10- 9-5	4	173
Sparks	11- 9-5	6	84
Sullivan	12- 9-5	2	136
Mid-Continent:			
McKinley	9- 9-5	8	25
Rogers	5- 9-5	5	507
Mid-Kansas:			
Anderson	14- 9-5	1	28
Phillips:			
Dunaway	14- 9-5	1	17
Reade	8- 9-5	2	809
Prairie:			
Davis	13- 9-5	3	324
Graham, C.	3- 9-5	1	4
Graham, O.	10- 9-5	4	612
Stidham	11- 9-5	9	194
Prairie-Skelly:			
Campbell	6- 9-6	7	1,396
Prairie-Whitney:			
Harjo	24- 9-5	1	1
Shaffer:			
Clark	1- 9-5	2	145
Shell:			
Bayless	17- 9-5	1	12
Hearn	13- 9-5	1	9
Spencer	12- 9-5	2	365
Sinclair:			
Alexander	36-10-5	1	750
Foreman	18- 9-5	1	13
Sango	2- 9-5	4	400
Sinclair et al:			
Foreman	18- 9-5	1	100
Skelly:			
Mayes	1- 9-5	4	348
Sheppard	6- 9-6	4	1,725
Spencer	12- 9-5	1	365
Skelly-Atlantic:			
Cherry	6- 9-6	4	259
Lottie	6- 9-6	3	211
Skelly-Prairie:			
Varnum	5- 9-6	2	611
Superior:			
Ingram	1- 9-5	2	958
Songster	8- 9-5	2	844
Walker	2- 9-5	2	681
Superior-Shaffer:			
McKay	36-10-5	1	Off
Texas:			
Anderson	2- 9-5	8	85
Brown	10- 9-5	8	76
James	6- 9-6	2	137
Rogers	5- 9-5	5	26
Wilmot	10- 9-5	6	76
Tidal:			
Walker	35-10-5	2	926
Watkins	9- 9-5	7	1,016
Twin State:			
Anderson	22- 9-5	1	5
Barker	12- 9-5	2	35
Hearn	2- 9-5	2	44
Magruder	7- 9-5	1	416
Total		300	33,553

East Earlsboro Pool

Company, farm—	Location	Wells	Prod.
Amerada-Dixie:			
Fuller,on	19-9-6	1	970
Scott	19-9-6	1	1,440
Sullivan	17-9-6	4	2,470
Barnsdall:			
Gilliam	13-9-5	1	77
Noble	18-9-6	5	1,604
Burke-Greis-Red Bank:			
Fixico	17-9-6	3	1,624
Carter:			
Campbell	20-9-6	1	Off
Chowning	19-9-6	1	680
Harber	7-9-6	3	Off
Wrightsman	19-9-6	4	4,418
Continental:			
McGuire	24-9-5	1	658
Gypsy:			
Maley	20-9-6	2	2,348
Noble, B.	18-9-6	3	1,758
Gypsy-Devonian:			
Payne	18-9-6	12	6,006
Independent-Atlantic:			
Fixico, L.	20-9-6	1	Off
Magnolia:			
Anderson, A.	18-9-6	12	2,823
Anderson, D. W.	18-9-6	4	2,164
Moore	24-9-5	3	709
Panos	18-9-6	3	99
Mid-Continent:			
McDaniels	7-9-6	1	188
Minnehoma:			
Noe	17-9-6	5	2,770
McMan:			
Jones	20-9-6	1	Off
Prairie:			
Baker	24-9-6	5	379
Calkins	17-9-6	3	1,389
Raitman	18-9-6	3	1,571
Wisner	18-9-6	1	Off
Prairie-Slick:			
Wilson	8-9-6	1	Off
Prod. & Ref.:			
Jefferson	19-9-6	2	1,123
Shell:			
Hopper	11-9-6	8	8,987
Sinclair:			
Miller	24-9-5	1	211
Nichols	19-9-6	7	6,815
Texas:			
Magruder	19-9-6	5	76
Tidal:			
Lassley	19-9-6	1	Off
Tidal et al:			
Harjo	20-9-6	1	Off
Total		110	53,357

Seminole Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Fixico	23-9-6	2	554
Killings	25-9-6	4	210
Rentie	23-9-6	3	183
Atlantic:			
Cudjo	35-9-6	3	276
Barnsdall:			
Carter	24-9-6	6	133
Henry	14-9-6	2	418
Jones	34-9-6	4	298
Carter:			
Carter, B.	24-9-6	2	79
Carter, F.	23-9-6	3	76
Creamer	34-9-6	1	4
Cudjo, R.	35-9-6	4	84
Cudjo, W.	34-9-6	1	54
Gilliland	27-9-6	1	81
Grisso	23-9-6	4	82
Grisso, M.	15-9-6	1	165
Killing, G. F.	14-9-6	4	35
Killing, M. E.	23-9-6	12	3,023
Knapp	13-9-6	1	30
Lukes	27-9-6	5	680
Pounder	34-9-6	2	115
Simpson	35-9-6	2	85
Strothers	34-9-6	4	309
Vierson	23-9-6	1	19
Carter et al:			
Sanford, C.	16-9-6	1	188
Wisner, C.	16-9-6	1	70
Darby:			
Carter, J.	24-9-6	4	160
Fixico	26-9-6	7	973
Harjo, D.	25-9-6	1	32
Harjo, T.	23-9-6	3	38
Empire:			
Gross	25-9-6	1	37
Wilson	34-9-6	2	161
Gypsy:			
Butler	35-9-6	4	167
Carter	24-9-6	8	702
Cudjo, T.	34-9-6	4	339
Fixico	26-9-6	7	57
Harjo	25-9-6	3	128
Wolfe	26-9-6	4	419
Independent:			
Fixico, P.	23-9-6	3	357
Harjo	25-9-6	2	16
Butler	35-9-6	3	370
Independent-Garland:			
Fixico, T.	26-9-6	5	219
Independent-Inter-Ocean:			
Jones	26-9-6	4	351
I. T. I. O.:			
Allen	25-9-6	2	31
Bowlegs	26-9-6	12	1,479
Goodin	23-9-6	3	168
Harjo	23-9-6	3	35
James	24-9-6	2	38
Reed	24-9-6	1	8
Kingwood-Shell:			
Harjo	22-9-6	3	286
Magnolia:			
Boren	2-8-6	1	2
Franks	25-9-6	3	66
Mid-Continent:			
Rentie	14-9-6	9	291
Tayeche	24-9-6	5	120
Phillips:			
Strothers	27-9-6	2	56
Prairie:			
Cudjo, R.	35-9-6	3	414
Franks	35-9-6	6	543
Giblet	35-9-6	3	975
Gross	25-9-6	5	19
Mason	36-9-6	1	46
Spencer	13-9-6	1	6
Strothers	27-9-6	8	839
Tiger	1-8-6	1	32
Pure:			
S.rothers	26-9-6	17	3,435
Strothers "B"	36-9-6	4	143
Strothers "C"	34-9-6	1	254
Shell:			
Harber	22-9-6	1	68
Lasley	22-9-6	2	23
Sinclair:			
Carter, J.	13-9-6	2	12
Cudjo, "A"	35-9-6	6	448
Cudjo, "B"	35-9-6	4	638
Dixey	22-9-6	2	276
Fixico	23-9-6	4	248
Superior:			
Cudjo, B.	35-9-6	4	80
Noble	15-9-6	1	3
Texas:			
Mayhue	14-9-6	2	469
Strothers	2-8-6	1	13
Turman:			
Cudjo	35-9-6	4	695
Grisso	35-9-6	1	268
Jones	34-9-6	4	709
Total		273	24,963

East Seminole Pool

Company, farm—	Location	Wells	Prod.
Barnsdall:			
Keypaya	7-9-7	1	14
Blackwell:			
Jonah	15-9-7	1	81
Continental:			
Boring	17-9-7	1	42
Johnson	18-9-7	3	1,017
Continental-Sinclair:			
Perry	18-9-7	3	330
Devonian:			
Harjo	18-9-7	1	8
Gypsy:			
Harjo	18-9-7	2	224
Magnolia:			
Drewery	18-9-7	2	17
Prairie:			
Stubbs	18-9-7	3	387
Shaffer:			
Hangler	19-9-7	1	10
Sinclair:			
Coody, B.	18-9-7	3	648
Coody, D.	17-9-7	1	25
Johnson, G.	18-9-7	1	140
Johnson "B"	18-9-7	1	73
Thompson "B"	18-9-7	2	1,568
Sinclair-Continental:			
Warrior, J.	17-9-7	2	30
Sinclair-Gypsy:			
Okfuskee	18-9-7	1	200
Sinclair-Phillips:			
Warrior, S.	17-9-7	2	43
Total		31	4,857

Searight Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Johnson	4- 9-6	1	19
Nicey	3- 9-6	1	1
S.rothers	3- 9-6	2	75
Barnsdall:			
Jackson	5- 9-6	2	19
Johnson	22-10-6	1	22
Burke-Greis et al:			
Nevins	32-10-6	2	579
Varnum	32-10-6	1	247
Carter:			
Davis	4- 9-6	2	148
Frazier	3- 9-6	5	146
Kiker	2- 9-6	1	19
Mandler	3- 9-6	2	7
Scott	26-10-6	1	10
Amerada (Comm)	11- 9-6	1	15
I.T.I.O. (Comm)	11- 9-6	1	200
Mayhue (Comm)	11- 9-6	2	958
McMan (Comm)	11- 9-6	1	366
Skiff (Comm)	10- 9-6	1	25
Slick (Comm)	11- 9-6	2	330
Stewart (Comm)	10- 9-6	1	146
Strothers (Comm)	11- 9-6	2	668
Gypsy:			
Cudjo	4-9-6	3	275
Gypsy:			
Nevins	32-10-6	2	387
Saloche	31-10-6	1	62
Magnolia:			
Varnum	32-10-6	3	34
Varnum, W. F.	5- 9-6	1	498
Mid-Continent:			
Grayson	34-10-6	4	20
Saloche	33-10-6	5	465
Mid-Continent-Homaokla:			
Nevins	32-10-6	4	456
Papoose:			
Marks	33-10-6	1	165
Pine, W. B.:			
Lulu	4- 9-6	1	10
Prairie:			
Cannon	33-10-6	1	1
Carter, J.	10- 9-6	1	2
Hauck	33-10-6	1	4
Hurford	32-10-6	1	17
Kinkaid	33-10-6	2	42
Weimer	22-10-6	1	11
Pure:			
Aldridge	3- 9-6	3	585
Shell:			
Crump	32-10-6	1	36
Strothers	3- 9-6	4	149
Sinclair:			
Polly	3- 9-6	4	613
Superior:			
Varnum	4- 9-6	1	15
Texas:			
Fleet	4- 9-6	1	17
Twin State:			
Varnum	4- 9-6	2	90
Wilcox:			
Chupco	4- 9-6	6	200
Total		86	8,159

PRODUCTION OF ST. LOUIS POOL

Average daily production for the St. Louis Pool for the week ending January 6:

Company, farm—	Location	Wells	Prod.
Amerada:			
Richardson	16-7-4	1	Off
Atlantic et al:			
Bass	9-7-4	1	119
Bewley	9-7-4	1	Off
Burke	16-7-4	3	421
Milburn	15-7-4	1	85
Standridge	10-7-4	1	75
Barnsdall:			
Stahl	30-7-5	3	288
Blackwell:			
Cherry	25-7-4	3	360
British-American:			
Coley	24-7-4	2	475
McGee	23-7-4	5	125
Carter:			
McGee	26-7-4	1	12
Darby:			
Bettis	21-7-4	1	140
Harber	23-7-4	1	26
Nixon	9-7-4	2	230
Youngblood	16-7-4	4	374
Darby-Atlantic:			
Cardwell	15-7-4	1	229
Empire:			
Bettis	17-7-4	1	79
Jackson	36-8-4	1	200
State	36-7-4	1	150
Gypsy:			
Bruno	25-7-4	3	52
Collins	25-7-4	4	290
Dodson	26-7-4	4	116
Green	17-7-4	6	3,416
Johnson	29-7-5	1	68
LeClair	23-7-4	4	1,263
Rosemond	26-7-4	4	216
Stahl	30-7-5	6	109
Gypsy et al:			
Johnson, W.	7-7-4	1	66
Healdton:			
Hines	17-7-4	1	44
Home Gas Co.:			
St. Louis	14-7-4	1	220
Houston Oil:			
Wyatt	17-7-4	5	825
Independent:			
Barrow	1-7-4	3	456
Blandin	30-7-5	5	838
Youts	19-7-5	8	1,534
Independen -Darby:			
Brown	14-7-4	2	10
Carson	23-7-4	1	Off
Davis	15-7-4	1	38
Freid	23-7-4	2	53
Jordon	10-7-4	1	23
LeClair	23-7-4	1	50
Pappan	16-7-4	3	327
Pillar	15-7-4	1	6
Standridge	14-7-4	3	18
Wallace	14-7-4	4	32
Independent et al:			
Hamby	14-7-4	2	15
Was	30-7-5	1	28
Independent-Mid-Kansas:			
Asher	3-7-4	1	Off
Independent-Mid-Kansas:			
Weldfelt	2-7-4	1	629
Independent-Range:			
Null	35-8-4	1	219
Independent-Skelly:			
James	17-7-4	2	144
Independent-Westland:			
Booze	9-7-4	1	32
Rhodd	16-7-4	3	282
I. T. I. O.:			
Brandenburg	35-8-4	1	943
McGee	26-7-4	1	159
Shobe	35-8-4	4	240
Weams	21-7-5	1	50
Weldfelt	2-7-4	3	1,122
I. T. I. O.-Sinclair:			
Woodward	18-7-5	1	40
Irwin-Martin:			
Kelly	2-7-4	3	386
Magnolia:			
Anderson	1-7-4	1	Off
Banta	14-7-4	3	194
Billington, C.	11-7-4	1	9
Billington, E.	22-7-4	4	396
Brandenburg	18-7-5	5	1,011
Bullock	18-7-5	1	Off
Caudle	13-7-4	2	53
Cherry "A"	26-7-4	5	252
Cherry "B"	26-7-4	3	88
Clour	11-7-4	2	18
Davis, C. E.	24-7-4	1	10
Davis, Frank	15-7-4	2	11
Engle	34-7-4	1	46
Fyke, Geo. "A"	20-7-5	1	109
Fyke, Geo. "B"	20-7-5	2	212
Fyke, L. L.	20-7-5	1	6
Fyke, Tullie "A"	20-7-5	1	59
Fyke, Tullie "B"	20-7-5	2	312
Fyke, Tullie "C"	20-7-5	1	36
Fyke, Tullie "D"	20-7-5	2	188
Fyke, Tulle "E"	28-7-5	1	8
Green, B. M.	13-7-4	1	7
Green, Lulla	13-7-4	1	69
Quinn	20-7-5	1	21
Harden	12-7-4	2	170
Hatcock, C. D.	11-7-4	1	13
Hatcock, Lee	11-7-4	1	71
Harper, J. J.	19-7-5	1	2
Harper, James	19-7-5	2	11
Hembree	19-7-5	4	29
Hilton, J. E.	22-7-4	1	1,279
Jones, "A"	18-7-4	1	66
Jones, M.	8-7-4	1	9
Jordan	12-7-4	1	38
Kiner	17-7-5	1	2
Latimer	17-7-4	2	126
Louis, J. L.	15-7-4	1	5
Lynn, D.	21-7-4	1	262
Lynn, F.	21-7-4	2	391
Mull	15-7-4	1	14
Nicklass	31-7-5	2	58
Nona	11-7-4	11	41
Richardson	15-7-4	2	348
Risenhoover	14-7-4	4	14
Robbins, J. M.	15-7-4	4	137
Robbins, Pearl	15-7-4	1	39
Rowe, I.	18-7-5	1	13
Rowe, M.	18-7-5	1	4
Shipshewano	19-7-5	4	61
Singletary, D.	15-7-4	1	4
Singletary, F.	23-7-4	3	22
Singletary, T.	14-7-4	3	20
Tartar	15-7-4	2	372
Vieux, F.	13-7-4	1	9
Vieux, N.	13-7-4	1	1
White, Roy	20-7-5	1	7
Wilborn, Mary	24-7-4	2	359
Wilborn, S. A.	24-7-4	6	685
Willamette	11-7-4	1	25
Youts, Chas.	20-7-5	5	265
Youts, C. A.	19-7-5	4	384
Youts, H. E.	20-7-5	7	701
Magnolia-Pierce:			
Hubanks	17-7-4	2	764
McCulloch et al:			
Bruno	25-7-4	5	714
Smith	25-7-4	6	734
Mid-Continent:			
Decker	8-7-4	1	45
Robbins	9-7-4	2	17
Mid-Continent:			
Guinn	20-7-5	1	20
Mid-Kansas:			
Getzelman	25-7-4	4	520
Lunay	30-7-5	3	225
Minnehoma:			
Simms	16-7-4	3	190
Packard:			
Church	29-7-5	1	260
Panther:			
Town Lo.	14-7-4	1	23
Town Lot	23-7-4	1	Off
Phillips:			
Cherry	25-7-4	2	92
Grace	2-7-4	1	79
Lydick	24-7-4	1	15
Stahl	30-7-5	1	226
Prairie:			
Bodkins	26-8-4	1	21
Desmond	25-7-4	4	66
Ellison	25-7-4	4	256
Gammon	30-7-5	8	2,515
Hembree, A. O.	19-7-5	4	761
Hembree	18-7-5	1	11
Meyer	32-7-4	1	74
Smith	30-7-5	3	35
Wolf	29-7-5	4	754
Youts	19-7-5	4	136
Prairie et al:			
Davis	18-7-5	4	46
Nesbit	18-7-5	2	167
Pugh	7-7-5	1	16
Prairie-Shaffer-Indep.:			
Cummings	17-7-4	2	161
Reagan	17-7-4	3	1,436
Prairie-Shaffer-Indep.:			
Rice	17-7-4	2	78
Pure:			
Brandenburg	21-7-4	1	308
Dodson	26-7-4	2	105
Pure et al:			
Latimer	21-7-4	1	100
Thomas	26-7-4	4	807
Thrilkill	19-7-5	1	45
Tolen	1-7-4	1	70
Shaffer O. & R.:			
Cherry	25-7-4	4	150
Tolen	30-7-5	4	268
Shell:			
Hines	22-7-4	1	119
Smith	21-7-5	1	50
Stahl	30-7-5	1	31
Sinclair:			
Blandin	24-7-4	13	835
Brandenburg	7-7-5	3	460
Bruno	26-7-4	2	166
Coley	24-7-4	2	220
Gilbreath	25-7-4	2	610
M-Qua-Ka	11-7-4	1	45
Nadash	29-7-5	4	420
Nealey	25-7-4	4	370
Neeley "B"	25-7-4	2	380
Nesbit	18-7-5	8	1,100
O-Kitchee	19-7-5	7	350
Sinclair et al:			
Kelly "A"	2-7-4	2	205
Skelly:			
Decker	16-7-4	2	364
Slick-W. Eagle:			
Latimer	16-7-4	3	408
Superior:			
Caudle	13-7-4	2	22
Jackson	36-8-4	1	40
Texas:			
Cherry	25-7-4	4	230
Goodin	25-8-4	1	Off
Zoeller	30-7-5	1	25
Warner-Quinlan:			
Light	16-7-4	1	50
Wetheimer-Daube:			
Freid	24-7-4	5	419
Garrett	23-7-4	2	65
Westheimer-Daube-Gypsy:			
McGee	23-7-4	5	65
Wofford:			
McGee	4-7-4	1	1,356
Wyatt:			
Fee	10-7-4	1	17
Smith	26-7-4	1	25
Total		453	48,451

ASHER POOL

Company, farm—	Location	Wells	Prod.
Comm. Devel. Co.:			
Townsite	19-6-4	1	Off
Independent:			
Gardiner	19-6-4	1	154
Obermyer:			
Townsite	19-6-4	1	110
Prairie-Slick:			
Laster	19-6-4	8	942
Carpenter	19-6-4	1	452
Simms:			
Laster	19-6-4	5	1,009
Slick:			
Alexander	19-6-4	3	194
Bledsoe	20-6-4	1	16
Weldon	20-6-4	2	74
Slick-Amerada:			
Walker	19-6-4	2	97
Texola:			
Townsite	19-6-4	2	30
Total		27	3,078

SASAKWA POOL

Company, farm—	Location	Wells	Prod.
Blackwell:			
Vanburskirk	7-6-8	1	172
Carter:			
Aldridge	7-6-8	1	20
Davis	7-6-8	1	15
Fleet	13-6-7	1	103
Phillips	18-6-8	1	30
Spillman	7-6-8	2	931
Gypsy:			
Phillips	18-6-8	1	485
I.T.I.O.:			
Fleet	13-6-7	1	466
Holatka	7-6-8	2	310
Magnolia:			
Diamond	8-6-8	1	Off
Spillman	12-6-7	1	224
Prairie:			
Diament	12-6-7	1	129
Patton	18-6-8	2	96
Pure:			
Bates	13-6-7	6	5,991
Shell:			
Holatka	7-6-8	2	170
Signal:			
Bond	13-6-7	4	909

Company, farm—	Location	Wells	Prod.
Sinclair:			
Davis, "A"	17-6-8	7	2,222
Davis, "B"	7-6-8	1	Off
Tiger	6-6-8	1	69
Texas:			
Bruner	9-6-8	1	10
Bryan	9-6-8	1	35
Twin State:			
Marshall	7-6-8	1	15
Total		40	12,407

ALLEN POOL

Barbara:			
Mount	36-5-7	1	10
Barnsdall:			
Lusty	15-5-7	1	788
Blackwell:			
Fleet	13-5-7	3	1,180
Burke-Greis:			
Nitchee	18-5-8	5	923
Dixie:			
Payton	1-4-7	2	100
Gilcrease:			
Punka	17-5-8	2	470
Reed	18-5-8	2	233
Reed, W.	18-5-8	1	22
Gypsy:			
Peter	18-5-8	9	315
Peter	23-5-7	3	1,620
Homaokla:			
Adams	19-5-8	7	368
McCall, M.	17-5-8	11	434
Milner et al	17-5-8	4	35
Milner, J. B.	16-5-8	2	6
Ritchie	1-4-7	2	149
Wheeler	16-5-8	1	3
I.T.I.O.:			
Bingham	8-5-8	3	165
Mathis	13-5-8	2	394
Osborn	18-5-8	3	150
Loual-Carter:			
Bates	36-5-7	1	12
Louisiana O. & R.:			
Harjo	17-5-8	6	160
McElroy	17-5-8	5	177
Perry	20-5-8	13	1,051
Pumluste	8-5-8	4	315
Reed	18-5-8	4	494
Reed, "A"	18-5-8	1	15
Statler	7-5-8	2	112
Warfle	20-5-8	3	213
Magnolia:			
Reed	17-5-8	6	276
Reed, "A"	13-5-7	2	556
Parney	14-5-7	1	169
Mid-Continent:			
Fleet	7-5-8	15	1,580
Harjo	14-5-7	3	760
Prairie:			
Harris	8-5-8	1	10
Simena	11-5-7	1	15
Wyecka	24-5-7	1	28
Ramsey:			
Butler	17-5-8	1	5
Butler, M.	20-5-8	1	12
Kerr	1-4-7	1	17
McElroy	17-5-8	1	36
Milner	17-5-8	9	1,302
Parker	17-5-8	2	46
Harjo	20-5-8	2	15
Smith	8-5-8	1	12
Warfle	20-5-8	1	8
Webb	20-5-8	5	98
Whitney	19-5-8	5	700
Shaffer, C. B.:			
Chapman	36-5-7	1	25
Yoakum	16-5-8	6	200
Sinclair:			
Amos, "B"	7-5-8	1	189
Jefferson	23-5-7	5	3,001
Narchoche, "A"	18-5-8	1	10
Narchoche, "B"	18-5-8	5	85
Peter	18-5-8	2	100
Joanna	24-5-7	2	257
Sunray:			
Amos	7-5-8	1	130
Cully, "A"	18-5-8	8	610
Cully, "B"	18-5-8	8	802
Joanna	24-5-7	1	20
Nitchey	18-5-8	4	564
Nitchey, So.	19-5-8	3	627
Sarney	19-5-8	2	60
Texas:			
Hyde	8-5-8	5	404
Lewis	13-5-7	1	435
Lucy	18-5-8	11	1,678
Jefferson	23-5-7	1	22
Westheimer:			
Milliner	8-5-8	3	114
Westheimer et al:			
Wade	19-5-8	9	1,141
Westheimer-Daube:			
W. A. Patterson	29-5-8	1	30
Total		243	26,063

OKLAHOMA CITY POOL

Coline:			
Olds	24-11-3w	3	5,420
Warren	18-11-2	2	393
Cromwell-Franklin:			
Trosper Park	13-11-3	1	1,756
I.T.I.O.:			
Bod. Anderson	30-11-2	1	3,584
Bodine, A.	24-11-3	1	613
Bodine, S.	30-11-2	2	15
Button	19-11-2	2	4,849
Emmerson, N.	30-11-2	2	Off
Fortson-Farley	24-11-3	1	Off
Fortson, E.	24-11-3	1	Off
Foster	24-11-3	1	Off
Fuzzell	19-11-2	1	10,322
Fuzzell, Thos.	13-11-3	1	7,961
Henning, K.	24-11-3	1	Off
Jennings	13-11-3	2	6,404
Johnson	25-11-3	1	2,037
Joyce, E.	25-11-3	1	Off
Oklahoma City	24-11-3	1	150
Peterson, Sadie	25-11-3	1	1,114
Speegle et al	24-11-3	1	Off
Trosper	13-11-3	3	677
Verne	13-11-3	2	265
Waters	25-11-3	1	Off
Wheeler	13-11-3	2	845
Williamson, Can.	24-11-3	1	Off
Mid-Kansas:			
Browning	18-11-2	1	6,214
Fortson	24-11-3	5	2,358
Mollman	23-11-3	1	Off
Trosper	19-12-1	1	241

UNLUCKY DAY FOR THE BUCK WHEN IT MET THESE MEN

Identifying them from left to right they are Jon R. Long, general manager of the Petroleum Equipment Co., Fort Worth, Tex.; Sim Slaughter, owner of the Oklahoma Rig & Supply Co., Muskogee, Okla., and Ben Thornburg, purchasing agent for the Frick-Reid Supply Corp., Tulsa. They didn't squat down beside that 150-pound buck by accident. They knew perfectly well that the buck was there, though you might not guess it from their nonchalant manner. The fact is Mr. Thornburg himself shot the buck, the largest bagged on Mr. Long's Texas ranch this season.

The three men, with Horace I. Kime, sales manager for the Robinson Packer Co., Tulsa, spent the week between Christmas and New Year hunting as Mr. Long's guests. The buck shown in the picture was only one of the week's trophies.

S.T.R. Company, farm—		Wells	Prod.
Prairie-Slick:			
Hiddleston	19-11-2	4	8,978
Shaffer, J. C.:			
Childs	14-11-3	1	4,546
Shell:			
Petty	30-11-2	4	2,945
Sinclair:			
S. Land No. 54	36-11-3	1	1,486
Stamper	30-11-2	6	1,096
Sinclair-Amerada:			
Kinter	30-11-2	2	Off
Slick, T. B.:			
Glidden	13-11-3	2	7,364
Zeckellie	13-11-3	1	1,173
Skelly:			
Hoops	31-11-3	1	Off
Wirt Franklin:			
Lowery	12-11-3	2	4,566
Trosper Park	13-11-3	1	676
Total		70	88,048

DEPUTY SUPERVISORS FOR TEXAS DISTRICTS

The Oil and Gas Division of the Railroad Commission of Texas has issued the following statement governing the grouping of counties of the State of Texas into districts as numbered and assigned to the several deputy supervisors named. Reports upon wells located or to be located in the counties named which are, according to instructions, to be filed with deputy supervisors, must be filed with them in person or mailed to their address as given:

District No. 1, Leslie McKay, care Railroad Commission, Austin; Blanco, Bastrop, Bell, Burnet, Burleson, Coryell, Hamilton, Lampasas, Lee, Milam, Travis and Williamson.

District No. 2, W. P. Laughter, 431 Gunter Building, San Antonio; Atascosa, Bexar, Bandera, Bee, Caldwell, Comal, Calhoun, DeWitt, Dimmitt, Frio, Goliad, Gonzales, Guadalupe, Hays, Karnes, Kerr, Kendall, Kinney, LaSalle, Live Oak, Maverick, Medina, McMullen, Real, Uvalde, Victoria, Wilson and Zavalla.

District No. 3, Goodson H. Rieger, 2115 Elmen Street, Houston; Austin, Brazoria, Brazos, Colorado, Fayette, Fort Bend, Galveston, Grimes, Harris, Jackson, Lavaca, Matagorda, Madison, Montgomery, Washington, Wharton, Walker and Waller.

District No. 4, R. C. Lomax, Chamber of Commerce, Beaumont; Angelina, Chambers, Hardin, Houston, Jefferson, Jasper, Liberty, Newton, Nacogdoches, Orange, Polk, Shelby, San Jacinto, San Augustine, Sabine, Trinity and Tyler.

District No. 5, F. H. Pierson, Chamber of Commerce, Corsicana; Anderson, Bowie, Camp, Cass, Collin, Cherokee, Dallas, Delta, Ellis, Falls, Freestone, Fannin, Franklin, Gregg, Hunt, Hopkins, Harrison, Henderson, Kaufman, Limestone, Lamar, Leon, Morris, Marion, McLennan, Navarro, Panola, Robertson, Rusk, Rockwall, Rains, Red River, Smith, Titus, Upshur, Van Zandt and Wood.

District No. 6, I. J. Killough, Chamber of Commerce, Eastland; Bosque, Comanche, Denton, Eastland, Erath, Hill, Hood, Johnson, Palo Pinto, Parker, Somerville, Tarrant and Wise.

District No. 7, O. H. Burkett, Chamber of Commerce, Cisco; Callahan, Fisher, Haskell, Jones, Nolen, Shackelford, Stephens, Taylor and Throckmorton.

District No. 8, W. J. Carden, Chamber of Commerce, Coleman; Brown, Coleman, Gillespie, Llano, Mason, Mills, McCulloch and San Saba.

District No. 9, W. R. Bowden, Box 877, Midland; Andrews, Borden, Dawson, Ector, Glasscock, Gaines, Howard, Martin, Midland, Mitchell, Scurry and Winkler.

District No. 10, G. W. Tilley, Chamber of Commerce, Olney; Archer, Jack and Young.

District No. 11, T. L. Coplin, 308 Perkins-Snider Building, Wichita Falls; Clay, Cooke, Grayson, Montague and east half of Wichita.

District No. 12, J. L. Martin, Chamber of Commerce, Electra; Baylor, Foard, Hardeman, Knox, Wilbarger and west half of Wichita.

District No. 13, J. T. Elliott, Box 2513, Amarillo; Bailey, Castro, Cochran, Dallam, Deaf Smith, Hockley, Hale, Hansford, Hutchinson, Hartley, Lynn, Lubbock, Lamb, Moore, Oldham, Potter, Parmer, Randall, Sherman, Swisher, Terry and Yoakum.

District No. 14, John Hoffer, Box 74, San Angelo; Coke, Concho, Crockett (all except Yates Field), Edwards, Irion, Kimble, Menard, Reagan, Runnels, Sterling, Schleicher, Sutton, Tom Green and Val Verde.

District No. 15, J. F. Fouch, Box 41, Laredo; Arkansas, Brooks, Cameron, Duval, Hidalgo, Jim Wells, Jim Hogg, Kenedy, Kleberg, Nueces, Refugio, San Patricio, Starr, Webb, Willacy and Zapata.

District No. 16, J. M. McDonald, Box 1016, Pampa; Armstrong, Briscoe, Cottle, Crosby, Childress, Carson, Collingsworth, Donley, Dickens, Floyd, Garza, Gray, Hemphill, Hall, King, Kent, Lipscomb, Motley, Ochiltree, Roberts, Stonewall and Wheeler.

District No. 17, J. A. Morehouse, Box 217, Fort Stockton; Brewster, Crane, that part of Yates Field lying in Crockett County, Culberson, El Paso, Hudspeth, Jeff Davis, Loving, Presidio, Pecos, Reeves, Terrell, Upton and Ward.

HAYWARD JOINS SHELL ENGINEERING DIVISION

Beginning January 15, John T. Hayward took up his duties as assistant mechanical engineer for the production department of the Shell Petroleum Corp. with headquarters in Tulsa.

Mr. Hayward is a native of England and graduated from the Liverpool University in 1910 in mechanical engineering and in accordance with the European custom immediately entered as an apprentice in the engine works of Messrs Workman and Clark, ship builders, Belfast, Ireland. After about one year there he went to Rumania to supervise the erection of a pipe line pumping station.

From that time Mr. Hayward was constantly in the employ of oil companies operating in Rumania advancing to the position of general superintendent of the Moreni district for the Rumanian Consolidated Oil Fields Co.

John T. Hayward

In 1916 he joined the British army as second lieutenant of the Royal Engineers and served until 1919, leaving the service with the commission of captain.

After the war Mr. Hayward again went back to Rumania and was engaged by the Rumanian Consolidated Oil Fields Co. as general manager and was also chief engineer for the Phoenix Oil Fields Company until May, 1929, when he resigned to move to the United States.

In 1927 Mr. Hayward spent one year in the United States in the interest of the Phoenix Oil Fields Co. and was so impressed with the possibilities here that upon his return to Europe he immediately made application to be put on the British quota so that he might bring his family to this country and make it their future home.

In addition to his ability as an engineer, Mr. Hayward is an accomplished musician and is a member of the Tulsa String Quartet organized by Kurt Berger last fall.

Mr. Hayward is a member of the American Institute of Mining and Metallurgical Engineers, Tulsa Geological Society and the American Petroleum Institute and has been quite active in affairs of these various societies since his arrival in Tulsa, July 4, 1929.

TANKER'S SPEED RECORD

CHATHAM, Ontario, Jan. 11.—The new motorship Calgarolite, the latest addition to the seagoing fleet of Imperial Oil, Ltd., established what is claimed to be a speed record on a recent trip from Talara, Peru, to Father Point, Quebec. The trip was made in 11 days, 18 hours and 49 minutes, averaging 311 sea miles or 358 statute miles per day.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

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MAIL your advertisement now. It will be published next week. Cash with order.

FOR SALE—EQUIPMENT

APPROXIMATELY 27,000' 5-3/16" 20-lb. 10-thd new Seamless Casing, located at Maud, Okla. Write Purchasing Department, Indian Territory Illuminating Oil Co., Bartlesville, Okla.

FOR SALE AT A BARGAIN
4 Carloads of New ¾" and ⅞" Jones' Sucker Rods, with perfect Pins and Boxes. 1 Small carload of New Pony Rods. Toledo Pipe and Scrap Iron Company, 1102-1104 Buckeye Street, Toledo, Ohio.

FOR SALE, or rent. Complete Gasoline and Steam Rotary drilling rigs, at attractive prices. Texas Supply Company, Lorraine and Semmes Streets, Houston, Texas.

TWO 36" and two 27" Carbondale Filter Presses in Excellent Condition. Must Move. Mid-Continent Equipment, Inc., 434 Continental Oil Bldg., Denver, Colo.

READY FOR IMMEDIATE SHIPMENT—PRICED RIGHT
50 MILES 4" O.D. PLAIN END PIPE
11 MILES 12" O.D. PLAIN END PIPE
15 MILES 4" STD. SCREW PIPE
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All sizes in casing and line pipe from 2" to 15½" inclusive.
PRODUCERS PIPE & SUPPLY COMPANY
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Tulsa, Oklahoma.

TANK CARS

For lease 8,000 and 10,000-gallon cars. Immediate delivery. Write, wire or phone.

HYMAN-MICHAELS TANK LINE, Inc.
Peoples Gas Building,
Chicago, Ill.

FOR SALE—3 Allis-Chalmers motor driven Centrifugal Pumps, 2,000, 5,000 and 7,500 gallons per minute. Low prices. 1—300 Hp. Scotch Marine Boiler. Miscellaneous Compressors, Storage Tanks, Filter Presses. CONSOLIDATED PRODUCTS COMPANY, 17-20 PARK ROW, NEW YORK CITY. BARCLAY 0600.

FOR SALE, STANDARD OUTFIT, $1,850.00, 84-foot Wood Derrick, 6-inch Ideal Rig Irons, Steel Shaft, Bull and Calf Wheels, 50 H. P. Boiler, Ajax Engine, Tanks, Stems, Bits, Jars, Miscellaneous, Other Tools. Drilled One Well. F. O. B. Cars Texas Point. J. E. Bischoff, 3531 Aurora St., El Paso, Texas.

TANK CARS—FOR SALE
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NEW AND USED portable and stationary air compressors, pumps, engines and gasoline and electric hoists for rent or sale. Sterling Machinery Corporation, 2307 Holmes St., Kansas City, Missouri.

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Sweetland Filters—Nos. 1, 2, 7, 9, 10. 8—2" and 3" belt motor driven Kinney jacketed Pumps, Tanks, Boilers, etc. Send for complete lists. Stein-Brill Corporation, 25 Church Street, New York, N. Y.

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COMPLETE HEAVY TYPE Ideal Rotary Outfit with 12x12 Ideal Ajax Twin Engine, roller bearing all enclosed, and with 14½x7½x18" Ideal Slush Pump, 4,000 feet 5" Drill Pipe with tool joints, No. 5 3-speed Drawworks, Rotary Crown Block, Drill Collars, Kelly, Hughes Rock Bit and all miscellaneous Tools. This outfit on hand near Cody, Wyoming; can be inspected there. Great Northern Tool & Supply Co., Billings, Montana.

500 USED GASOLINE FILLING STATION PUMPS of various makes at a bargain, if taken in lots of 25 or more. Address, J. B. Thompson, Drawer 8, Purchasing Dept., St. Louis, Mo.

EQUIPMENT WANTED

WANTED, 3,000 to 5,000 ft. 4" to 6" Pipe, with Couplings, in good shape and capable of standing fair amount pressure. Need not be exactly uniform other respects. Give full details and price for immediate sale. U. Ray Brown, La Feria, Texas.

WANTED: Five to fifteen thousand feet one inch, left lay construction only, and fifteen thousand feet three-quarter right lay, six by nineteen, discarded wire lines. Good condition. Address, William Gruber, San Angelo, Texas.

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NEW VENICE OIL FIELD
For acreage in Rancho La Ballona between Ohio Oil Co. 3,000-bbl. well flowing barefooted in Venice, and Associated Oil Co.-Vickers' deep test, No. 1 in Baldwin Hills, Inglewood Field, shut in for over two years. Harry Greber, 753 Overland Ave.. Culver City, Calif.

OIL AND GAS production for sale; Arkansas, Louisiana; also acreage and royalties in new Zwolle Field. Address G. Lucas, 712 Dalzell St.,, Shreveport, La.

SMALL KANSAS CORPORATION oil and gas developing company with several complete standard outfits for turnkey drilling either wildcat or proven acreage, including derrick tools and casing. Have several good bottom hole contracts. Needs advance money for payroll, fuel, etc. Can give good return with safety. Also good opportunity for parties with capital to connect with reliable operators having good office and field organization. Write Box E-63, The Oil and Gas Journal. Tulsa. Okla.

OIL LOCATED before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses. 95 per cent accuracy. O. P. Coffin, Caddo. Tex.

FOR SALE. Machine shop. Good building, machinery and equipment at Lovell, Okla., between Roxana and Lovell oil field. Fine opportunity. Money maker for right parties; only shop in field. Write for details. Would consider leasing to responsible parties. O. P. Aulbach, 205 East 11th St., Oklahoma City, Okla.

FOR SALE OR TRADE
Reconditioned pipe, casing and Oil Field Supplies. Also Gasoline Plant Equipment. Lee Morrison Supply Co., Bartlesville, Okla. Branch yd. at Sand Springs, Okla.

PERMANENT GASOLINE OUTLET
Super-service station with 200 car parking garage. Batteries and tires. Bulk storage. Finance this deal! One of the best set-up and layout in Illinois. Owner must devote all his time to the manufacturing business. Address: Box 133, Aurora, Ill.

TO REPUTABLE PRODUCER ONLY
Have an attractive offer on 1,088 acre block for drilling contract. Adjoins Gulf Block in Van Zandt County, Texas.
Caldwell and Holland,
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BUSINESS OPPORTUNITIES

FOARD CO., TEXAS, has oil field. Sell ½ of my royalty in 2,500 acres owned. B. J. Smith, Box 487, Corsicana, Tex.

FOR SALE, or lease, on royalty basis a combination Gas Regulator and Safety Device. Patented. For full information write P. O. Box 14, Wilmot, Kansas.

SMALL BLOCK ACREAGE, Reno County, Kansas. Want drilling prop., or will sell acreage. Must start well soon in Kansas Hot Play. Address, F. C. Purdy, Sterling, Kansas.

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NEW MAP OF
MID-CONTINENT OIL FIELDS
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KELLY MAP CO.
P. O. Box 1773. Tulsa. Okla.

OIL DEVELOPMENT maps, any county in Oklahoma and west Texas. 75c each. State, county and district maps showing oil development. Lindsay Map Co., Franklin Bldg., Oklahoma City, Okla.

STAR COUNTY MAPS for immediate delivery; showing ownership; size 54x66 on cloth. H. E. Wilcox. Edinburg. Texas.

TOWNSHIP PLATS, Letterheads, Envelopes. Write for samples. R. D. Elliott, 5 N. First St., St. Louis, Mo.

REAL ESTATE

$10 MONTHLY acquires 5 acres pecans, figs, oranges. Cared for. Suburban Orchards, Dept. J, Biloxi, Miss.

HELP WANTED

DRAFTSMEN
Thoroughly experienced on Oil Refinery Work, to Lay out, Design and Check. Permanent Positions offered to qualified applicants. Submit full details in first letter. Location in Ohio. Write Box E-65, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Engineer experienced in refinery design by Oklahoma Oil Company. State age, experience, education and salary expected. Address Box E-62, The Oil and Gas Journal. Tulsa, Okla.

STATE OIL FIELD SPECIALTY MANUFACTURING CO. has an opening for livewire salesman, who knows the trade. Salary and commission proposition. Earning capacity limited only by willingness to work. Send references and experience to Box E-74, The Oil and Gas Journal, Tulsa, Okla.

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SALES ENGINEER. Ten years experience selling drilling and producing equipment; wide acquaintance Mid-Continent territory. Now employed. Write Box E-54, The Oil and Gas Journal, Tulsa, Okla.

MAP DRAFTSMAN. 18 years experience, Topographic, Municipal, Land Development, Surveys, City and Subdivision and Oil Field Map desires position in Engineering Dep't. with Oil Co. or Civil Engineers. Age 39. Good references. Write Box E-66, The Oil and Gas Journal. Tulsa, Okla.

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The Oil and Gas Journal

TULSA, OKLAHOMA

Gasoline Movement in Chicago Light

Only a Fair Business on Contracts Reported. Fuel and Furnace Oil Market Improving at Latest Reports

By J. B. Waldo

CHICAGO, Jan. 13. — This week began with a continued light movement of gasoline on spot orders and only a fair business on contracts. The weather continues mild with rain on top of the heavy snow fall of last week. Reports made by country jobbers show that this condition is not confined to the vicinity of this city but is quite general over the lake region. The larger refiners have not made any change in their spot quotations, still holding for 7 cents for the most part, but U. S. Motor gasoline claimed to be of Oklahoma origin and having the full specifications required for that grade is still selling at 6¼ cents with few spot orders entered at above that price and some sales at a fraction less. The higher gravities were in some demand on Monday and sales of the 68-70 gravity 350 endpoint were made at 8 cents and of the 400 endpoint at 6⅝ cents, which prices are a little below the recent market for these gravities.

Fuel and Furnace Oils

In the fuel and furnace oil sections the position in this market has been improved by the fact that much of the accumulations on the tracks here have been worked off in some way. Distributors are holding back their orders or shipping directions and gradually absorbing the excess of material which was held here. Distillates were again freely offered on Monday by some large refiners who had prepared for a much larger demand. Zero gas and fuel oils were held steadily although the movement of the furnace oils of all gravities was not heavy.

In the heavy industrial fuels the consumption is increasing a little but is not quite as good as it was a year ago at this time, but January and February of last year were marked by steady cold weather. Some larger refiners stated today that their stocks of zero gas and fuel oils were ample for their contract and station requirements with this kind of weather but that a spell of continued cold weather might put them in bad shape. The only materials of which these refiners had an ampler supply were straightrun gas oil and distillate and they did not feel that the time was yet ripe for them to take any special action to reduce their storage of these oils.

The gasoline movement is seriously interfered with by the road conditions. According to the weather reports we have had in this territory something like snow fall of between 26 and 30 inches since the beginning of December. The early heavy snow had just about been melted away by the mild weather when the latest storm supplied a new covering of greater depth. The area in which the jobber can distribute his products is now limited to the paved streets and to the highways. Even the latter have been blocked at some points. Customers from the country cannot reach the service stations and even town dwellers are leaving their cars in the garage to a great extent. In some cases the gallonage of the jobber has been reduced to one-half or less. This condition is being reflected in the orders received for gasoline by the local sales offices.

Price Situation

The price situation shows very little change as to the U. S. Motor grade but is slightly easier on the higher gravities although the 64-66 375 endpoint gasoline is holding in better shape than any other gravity. With the demand reduced by weather conditions, the smaller nearby refineries are supplying a larger percentage of the going demand than they would if the market were more active and the result is they are practically naming the spot market price. If they are not naming the price they are preventing any real strength from showing if there is any strength to the situation. They are usually quoting a price to resellers of 6 cents, Group 3, basis which, allowing for a switching charge which cannot exceed one-eighth cent a gallon, gives them a net back of 8¼ cents at the refinery. They claim they cannot ask more as gasoline is being offered at 6 cents from Oklahoma and other points. These plants are not equipped with any large amount of storage but want to keep running for they have sold a lot of fuel or gas oil and they must fill these orders and while running the fuel oil they secure more or less gasoline.

It is apparently the demand for fuel oils that is obliging the refiners in the Southwest to operate their plants at the capacity at which they are being operated. Some of them have expressed themselves as wanting to run more fuel oil but not desiring to increase their gasoline storage they are not increasing their runs. This is the reverse of the usual condition especially in the summer season when the large gasoline output forces a heavy production of fuel oils. These supplies are now used for cracking stock and the volume of gasoline is increased with less crude run and with less residual oil left to sell for fuel oil purposes. According to several reports made to this city, stocks of gasoline are increasing and with the slowing down of the demand owing to the bad weather these supplies may become even more plentiful. This would not be so objectionable were it not for the condition of some refiners who must sell their product as they run the crude which is the case with most of the smaller local plants as previously instanced.

Offerings Too Large

The Southwestern market has shown a considerable resistance to further declines. Some refiners are closed down and others are slowed up, temporarily at least, but the offerings are larger in this market than the demand and locally there is a rather weak situation. The larger refiners are most of them now selling at 6¾ cents and some are quoting 6½ cents to their regular trade and this is a very elastic term. The spot sales at these prices are very limited. One of the larger said they were, "storing and sucking their thumbs." The smaller nearby plants are offering U. S. Motor gasoline to the trade at 6¼ cents and for resale at 6 to 6⅛ cents and some of the larger local distributors at least are able to buy from them at the low price. Tank car marketers have been able to buy U. S. Motor gasoline as low as 6 cents out of Oklahoma and at slightly less from other sources. They have been trying to sell at 6¼ to 6⅜ cents but find that jobbers are being quoted, so they claim, the 6-cent price. There is some effort being made to sell the jobbers naphthas from the Texas plants usually at 5¼ cents refinery and those who are trying to make the sales claim that by using a fair percentage of B or BB natural gasoline blended with these naphthas, a very usable article in the way of a motor fuel can be obtained which will cost less than the U. S. Motor grade and which the sellers state will have a high antiknock value.

Demand for Ethyl

The demand for Ethyl Gasoline is so active that refiners in this market who have made contracts with jobbers to supply them with the Ethyl Gasoline claim the jobbers are selling their full quotas and are asking for more. The demand has been confined to some degree to the cities and towns but the sellers state that from all parts of the territory come reports of an increasing demand. Of course the sale of this product is suffering with all grades of gasoline owing to the bad weather but the public is certainly giving the Ethyl product a good tryout this season. It is no uncommon occurrence to have acquaintances outside of the oil industry mention that they have tried out the gasoline and had very satisfactory results. There are some refiners and even some jobbers who are holding to their own previous products. One distributor is quite enthusiastic regarding the benzol blend which he claims is really better than the Ethyl Gasoline. There are all kinds of opinions regarding the various makes of gasoline but the number of those who are favorably outspoken regarding the Ethyl Gasoline is very noticeable. Two large Mid-Continent refiners will be supplying Ethyl Gasoline of their own blending through their own stations and to their contract customers during the present month for the first time and they are doing this in response to a popular demand. Of course there is a very good profit in handling the gasoline and the marketing conditions are such as to almost insure a continuance of this profit at least until the public have been led to believe that something else will answer the purpose just as well which does not cost them quite as much.

The higher gravities have dragged here and prices with the sole exception of the 64-66 375 endpoint have declined. The latter is fairly firmly held and has not been freely offered, in fact has been rather hard to buy. The other gravities over the U. S. Motor grade have been at times freely offered and some sales have been made at prices that were out of line with the market. For example the 390 endpoint has been cut by some refiners who were overloaded down almost to the parity of the 400 endpoint. The quantity offered is usually limited but with the light demand it takes considerable searching to find a buyer. Natural gasoline has been very quiet here as might be expected with the present market.

Kerosene Inactive

Kerosene has continued inactive and some of the larger refiners have reduced their quotations. The price of 4 cents which was made by one refiner and which moved considerable material owing to the high standing of the product of this refinery, has been met by others who have quoted lower prices. The next demand is expected from the incubators which will use considerable kerosene in some localities. The demand is for a clean burning, very reliable product and many ask for a 42-44 for this use. In some parts of the territory the spring work begins early in March, provided the ground is in shape to work. If the fields are not frozen it is no unusual sight to see a farmer plowing during a snow storm but much will depend on the weather as usual. We may hope that the winter which has been unusual in the matter of snow fall, may be followed by an early spring.

Distillates have been moving steadily but not heavily and the demand has been less than the supply at least in this market. The consequence has been great efforts to sell not alone by refiners and tank car marketers but by the tank wagon distributors who have had more distillate shipped than they could take in or place with their customers. Prices have been weak and good 38-40 material has been freely offered at 3½ cents for resale and some on which the odor or the flash was not just right could be picked up for a little less.

Furnace Oils

The absence of any really cold weather in this section has reduced the consumption of all kinds of furnace oils and as refiners have continued to ship on contracts and previous orders there have been large accumulations of fuel and furnace oil in this market. One of the well known local distributors has had so many cars on his sidings that the railroads have issued an embargo and will not accept any more cars for delivery at this company's siding. Practically all of the local distributors are over supplied. Passing the sidings of one of the smaller concerns 12 cars were counted on the tracks and another larger concern is reported to have upwards of 70 cars awaiting an opportunity for unloading.

Several times the weather man has predicted cold weather, in some cases a severe cold wave for this vicinity, but so far the weather has not been less than just a little below the freezing point, not cold enough to make large fires necessary. One distributor sold 15 cars of material last week, all 18-20 fuel oil but for the most part such sales have been a car or a few cars. In fact no great quantity could be sold except at a great sacrifice of price. As is quite common, in fact so common that the practice is accepted as almost a part of the business, there have been a great many cancellations, some having a substantial reason in the poor quality of the oil shipped but many were simply the result of conditions in the market, as the material was right in line with the order. These rejected cars became almost automatically distress cars and the shipper quite commonly offers them at some sufficient reduction in price to make it an object for some buyer to take in the cars although he may not have an immediate use for the oil. There is also quite a volume of oil being received here by distributors and others which was bought on contracts at materially less than the present market. There are quite a number of contracts for 18-22 fuel oil which are based on the market price with a maximum of 70 cents. The present market for this grade if bought in Group 3 today would be 85 cents yet some buyers with a surplus in their yards were willing to sell at 80 and in one case at least at 75 cents to save demurrage. A small lot of 28-30 for which the refiner is asking $1.20 was sold at $1.12½ and so it has gone throughout the list.

Straightrun Gas Oil

The straightrun gas oil is being freely offered from Group 3, although it is possible it does not originate there, at 2¾ cents and good Oklahoma oil has been sold at 3½ cents. The demand is quite small for this straightrun oil as neither refiners nor gas companies are taking in any quantity. Supposedly the gas companies are supplied by their contracts or early buys. At any rate their purchasing agents are not interested and it is only the smaller concerns that are in the market. Sellers have been expecting a demand to develop but so far there has been no indication of any improvement in the movement in spot orders of U. G. I., gas oil.

Fuel Oil Slower

The slowing down of the demand for fuel oil both for heating and for manufacturing has brought about a temporary over supply in this market. It seems to be largely confined to the Chicago manufacturing district, which is much greater than the city proper. The general result is a supply of what is really distress material of cars without a home or definite destination. Most of these mix-ups are

(Continued on Page 138)

Eastern Gasoline Market Still Weak

Further Reductions in Tank Wagon and Service Station Prices Are Looked For. California Shipments Disturbing Factor

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Jan. 13.—Weakness in gasoline continues the dominant feature of the market in the East and further reductions in tank wagon and service station prices, in the form of revisions in pricing methods, are looked for in territories not affected by Standard of New Jersey's action last week. The chief weakening factor in the motor fuel market at present appears to lie in offerings of California gasoline for shipment East at prices that figure out about three-quarters of a cent per gallon under the posted price here. Until these distressed stocks are cleared up there is little likelihood of any stabilization of the market position in the East.

Lubricating oils and paraffin wax prices have shown further reductions during the past week, but the remainder of the market is without change. Sales of furnace oils and kerosene have fallen away somewhat, due to warm weather throughout the area and this situation oils remain rather firmly held.

Competitive conditions remain keen throughout the area and this situation is expected to continue to prevail until the season of heavy gasoline consumption sets in, when there is usually sufficient business to go around without the necessity of artificial sales pressure to stimulate sales.

Notwithstanding the somewhat unfavorable aspect of the market, from a statistical standpoint, trade interests in the East believe the market is fundamentally sound, and have not altered their views regarding a probable year of good business and substantial profit margins during 1930.

Tank Car Gasoline

Record mild weather for this season of the year has stimulated gasoline consumption in the East during the week and a better movement of motor fuel has been witnessed in the tank car market. Principal sellers continue to hold the posted price at 8¾ cents at refinery terminals, although 8⅝ cents is being freely done on spot and at other East Coast points.

Thus far there has been no change indicated in the method of pricing tank car gasoline at East Coast terminals, although it is possible that some revision may be put into effect along the lines of the recent change in basing tank wagon quotations. Any change in this division, however, is expected to wait further straightening out in tank wagon distribution methods.

The tank steamer market is still an important factor in eastern tank car prices and the outlook points to further domination of the wholesale markets in Atlantic Coast territory by offerings of California and South American gasolines in cargo lots. There has been some lightening of selling pressure in the cargo market during the past week, although outside gasolines can still be laid down at New York at prices substantially under the prevailing tank car basis here.

Jobbers in Eastern territory are not contracting ahead to any extent and refiners are not pressing forward deliveries. Owing to uncertain weather conditions at this time of year and consequent unsettled consumption, jobbers are not carrying large stocks at their bulk plants. This tends to keep refineries busy in getting out shipments of single cars, most distributors following a policy of keeping a few days' stock on hand and a car rolling for replacement purposes.

Jobbing demand for premium fuels is a feature of the market, with quotations firmly maintained on all of the leading brands.

Tank Wagon Gasoline

Revisions by Standard Oil Co. of New Jersey in tank wagon and service stations schedules throughout its territory have been followed by most of the other marketers operating in that area.

Standard of New York and other factors dominating the New York and New England markets are reported contemplating the changing of their pricing method to conform with the Jersey company's new system, but nothing definite or official has been forthcoming in that direction yet. The action of Magnolia, a subsidiary of Standard Oil of New York in adopting the new pricing system, however, is expected to be followed by the parent company.

Mild weather has brought about a considerable increase in motoring and tank wagon gasoline sales have consequently picked up materially. Quotations are unchanged on the part of the large marketers in the New York and New England areas, but some shading is still being done by small independent markets and the continued weakness and unsettled conditions in tank car markets make it possible for independents to create considerable local disturbance through price-cutting activities.

Warner-Quinlan Co., which last week announced that it would discontinue marketing "white gasoline" in New Jersey, restricting sales to its "Super-X" fuel, will continue to market both grades in New York.

There have been no changes in prices for premium motor fuels and the top quality gasolines remain relatively free of the price competition which has characterized operations on straight U. S. Motor at a number of points in local territory during the past several months.

Kerosene

A number of price revisions were put into effect in New Jersey territory, incidental to the change in price basing by that company last week and other companies operating in competitive territory have followed in these revisions.

Tankwagon sales of kerosene have eased off materially in many sections of the East, owing to the exceptionally warm weather which has been experienced. Refiners' stocks of water white had been running low in some instances, however and the lull in demand is enabling them to catch up.

Marketers operating in New York and New England are expected to announce shortly a revision in pricing methods, whereby tank wagon quotations will be based on the cargo market, plus a differential and the freight to distributing point.

No change has developed in the tank car market. Refiners continue to quote water white at 7¾ cents at refineries and this quotation is being adhered to pretty generally. Movement has fallen off considerably, the milder weather cutting consumption and consequently lightening jobbers' requirements.

California refiners are reported to have fairly large surplus stocks of kerosene on hand and it is expected that shipments of this oil to the Eastern seaboard will be increased somewhat during the current year.

Diesel Oil

The market remains unchanged at $2 per barrel, bulk, at refineries, with a continued good movement reported. Contract withdrawals are well maintained.

California Diesel oil is now availab'e at a price which enables eastern distributors to lay down the Pacific Coast product at prices materially under the posted schedule at Atlantic ports and a larger movement of the California product eastward is now in progress. Barring any marked advance in tanker charter rates for intercoastal movement, marketing of the California product in the East is expected to show material expansion this year.

Lubs

Continued softness is in evidence in the market for cylinder stocks and business continues of restricted volume. Bright stocks in particular are easy, with the light available at 50 to 51 cents per gallon, down 2 cents, and the dark showing a drop of 1 cent to a range of 49 to 50 cents. A number of refiners appear willing to make concessions on bright stocks. Warren 600 "E" is quoted at 39½ cents with Oil City "E" a cent lower. On 630 Pennsylvania flash the market is quoted at 43 cents.

Domestic blenders and compounders have not yet come back into the market for supplies and it is still a buyers' market in most respects. Inquiry for spring delivery stocks is fair, but thus far little actual business has developed. Export buyers are likewise holding off the market to a large extent.

A better movement of red and pale oils has developed. A number of industrial consumers who had been out of the market during the closing week of December and the first week of the new year, have completed their inventories and are ordering forward lub oil in fairly large volume. Prices remain unchanged on red and pale oils.

Gas Oil

Routine movement is again in evidence on this oil. The posted price is nominal at 5¼ cents per gallon, with most of the current business going through at 4¾ to 5 cents in tank car lots at refinery terminals.

Contract withdrawals of gas oil by artificial gas companies are picking up somewhat and refiners are looking for better buying on the part of other classes of consumers. The market tone is far from strong, however, and it is probable 4⅝ cents could be worked in a large way. California gas oil is still moving eastward and is far from a strengthening influence on the situation at the East Coast.

Fuel Oil

Bunker "C" is moving into consumption in a substantial way and the market goes into the new year firm and unchanged at $1.05 per barrel, bulk, at refinery terminals. If anything, however, the feeling is a little better than was the case at the start of last year. Overproduction of crude has been taken in hand and South American competition is now a known factor. Mexican operations continue to fall off and refiners at East Coast points are in a better position to develop their production schedules for the year, based on the known factors of outside supply and local demand.

Refiners in this area are making some progress in cutting down production of fuel oil, it is reported, but production for the United States as a whole is still running materially in excess of requirements. Domestic output for the first 11 months of 1929 totaled 411,633,000 bbls. against 389,744,000 bbls. in the comparable months of 1928. However, it is expected the campaign to curtail fuel oil output will become national during 1930 and that material progress will be made toward balancing production with consumption.

Furnace Oils

Warmer weather curtailed consumption of domestic heating oils somewhat and tank wagon movement slowed down a little.

Prices for furnace oils, however, remain firm, and refiners and marketers are looking for further heavy sales during the balance of the season. The bulk of this business is moving out on contract, the spot market locally being rather inactive. Jobbers at interior points are in the market for supplies in good volume and there is a continued good movement in the tank car market reported. Demand is centering to some extent on the lighter oils, which are not in excessive supply and are strongly maintained.

Export Markets

Another contract for Panuco crude was put through this week, the seller reporting the trade at "under 75 cents" per barrel, less tax at Mexican terminals. This oil is going to the Continent and is for March-December shipment.

There were no export gasoline cargoes reported fixed at the Gulf and there were no firm inquiries in the market. The association basis of quotations holds, but with continued dullness in trading, operators would not be surprised to see some business put through at Mid-Continent refineries at prices under the posted schedules at the Gulf.

Reports of price shading on bunker oil at the Gulf are reported, but most of these rumors upon investigation are found to involve low-grade oil and it is stated that full quality bunker "C" cannot be had under 70 cents in cargo lots with some interests quoting 5 cents per barrel over this figure.

United Kingdom buyers are reported looking for several cargoes of California gasoline, but inasmuch as they want 400 endpoint stock at Navy prices, the outlook for business is not overly favorable. Refiners on the Pacific Coast are willing to run an exceptionally high grade of Navy, but not to sell at Navy prices. According to reports here, it is probable this British business will ultimately go to the Black Sea, with the product so bought "stepped up" with casinghead gas or benzol for distribution in Great Britain.

A little shading in kerosene at the Gulf is reported, but the export market locally appears in firm shape.

Lub oil prices at the Gulf have eased off in sympathy with the lower market at North Atlantic and the continued keen competition for export business. Volume of trading has eased off somewhat with buyers apparently waiting for additional supplies of distressed oil to make their appearance.

Petroleum Exports

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week Ended		
	Jan. 4	Dec. 28	Dec. 21
Gasoline	430,000	530,000	590,000
Naphtha	1,395,000	23,000	1,552,000
Kerosene	620,000	69,000	287,400
Fuel oil	70,000	490,000	44,000
Lubricating oil	1,337,000	1,385,000	2,825,700
Petrol'm refined	830,000	460,000	1,239,800
	Pounds		
Petrolatum	12,000	.....	11,000
Paraffin wax	360,000	3,014,000	3,425,000
Refined	.....	.....	.....
Scale	595,000	340,000	1,058,000
Lubr. grease	415,000	1,071,000	965,000

Imports

Imports of crude and refined oils at the principal United States ports for the week ended January 4 totaled 1,438,000 bbls., a daily average of 205,429 bbls. against 2,060,000 bbls., or 294,286 bbls.

(Continued on Page 138)

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Natural Gasoline Manufacture

Discuss All Phases Of Safe Operation At Gasoline Plants

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Jan. 11.—The design, construction and operation of natural gasoline plants from the standpoint of safety is the subject of an exhaustive technical paper prepared by G. B. Shea of the United States Bureau of Mines.

In the preparation of this paper, Mr. Shea visited natural gasoline plants in the Mid-Continent, Texas, California and Wyoming Fields. He devoted two years to this investigation and a year to the preparation of the report. Every detail of the design, construction and operation of such plants is discussed in great detail. This report has just been completed and Mr. Shea has been assigned to the duties of associate petroleum engineer in Washington, D. C.

In 1917 the absorption process of manufacturing natural gasoline began to be generally adopted and many new plants were built with novel and in some instances dangerous equipment.

"Rapid installations were necessary to utilize the large quantities of gas blown to the air in newly discovered fields, and usually little thought was given to safety. There were no systematic designs in laying out many of the plants, no systematic inspections of existing installations to detect fire hazards, and little or no realization of the necessity of safeguarding machinery and equipment. Consequently, fires and accidents were frequent about natural gasoline plants.

"The natural gasoline industry has made great strides in reducing accidents during the past few years, and in accident prevention the natural gasoline manufacturers are as advanced as other divisions of the petroleum industry. Intelligent instruction and education have been the greatest contributors to the progress that has been made in safety.

"Likewise, progress and improvement in the design of gasoline plants have added to the efficiency and safety of plant operation. Decreased height of towers, better design of stills, automatic regulator controls, and proper venting, for instance, have improved operating equipment and increased the safety of operation. Improvements in equipment and the introduction of new devices and methods have resulted also in the manufacture of better grades of gasoline than heretofore.

"In spite of this progress the industry remains an extremely hazardous one, due to the very nature of the raw materials handled, the process of extracting gasoline from natural gas, and the product. Owing to the facts that gasoline is extracted under pressure and that gas and gasoline are highly inflammable, the risk of fire and explosion always attends the recovery of gasoline from natural gas.

"The serious explosions and fires that have occurred recently demonstrate the need of increased efforts to prevent recurrence of similar disasters. To meet these demands fully, it is evident that the most painstaking study must guide the operation of natural gasoline plants and every advantage must be taken of all past experiences, so that accidents from the same cause will not be repeated."

The design of natural gasoline plants involves selection of site, which includes a consideration of the topography, character of soil, atmospheric conditions, location with respect to present and future development, area and cost of site. The arrangement of equipment involves the elevation scheme, location of distillation,

(Continued on Page 140)

Who's Who IN NATURAL GASOLINE MANUFACTURE

Skelly Oil Company

The natural gasoline department of the Skelly Oil Co., starting with one small plant a few years ago, has gradually increased the number and capacities of its plants until now the company has a net production of approximately 200,000 gallons daily. The company is a large producer of crude oil and most of the gasoline plants have been built in fields where this production is located.

During the past two years the company has greatly enlarged its natural gasoline output in the Texas Panhandle area and the Greater Seminole area of Oklahoma. The company's Schafer ranch property in Carson County of the Texas Panhandle now has a rated capacity in excess of 35,000 gallons daily. This property is being operated with the view of securing the maximum recovery of both crude oil and natural gasoline. In the natural gasoline end the oil absorption type of plant operation is being combined with smaller units of the charcoal absorption type.

The company in recent years has been a consistent user of the charcoal process developing its application in areas where a large investment was not justified and where a lean gas supply was available. The company also has done considerable research work in new products. Equipment has been installed at some of its plants for the manufacture of the so-called "liquified gases." The company has developed a large outlet for one of these gases known as "Skelgas," which is used as a gas fuel for homes.

The following table gives a list of the Skelly plants now operating. Since this list was compiled the capacity of some of the plants has been increased.

Texas

Location:	Daily Capacity Gallons
Block Y, Hutchinson County	35,000
Burk Townsite, Wichita County	10,000
Schafer Ranch, Block 4, Carson Co.	35,000
Section 174, Block 3, I.&G.N. Survey, Carson County	10,000

Oklahoma

Section 14-7-6	7,500
Section 15-14-8	2,000
Section 4-15-9	2,500
Section 15-15-10	7,000
Section 11-27-5	17,500
Section 2-14-5	3,000
Section 15-20-6	3,500
Section 24-24-9	6,750
Section 6-9-6	35,000
Section 17-9-6	10,000
Section 19-6-4	5,000

TO ENLARGE PLANT

FORT WORTH, Tex., Jan. 11.—The California Gasoline Corp. of Los Angeles will install an additional unit at its gasoline plant on the Overal estate 7 miles south of Coleman, Tex. The present capacity of the plant is 3,000,000 cubic feet.

The company has a second plant on the Weaver ranch, northeast of Coleman. Five compressors are being installed for repressuring. The company expects to build additional plants in that area.

A PRACTICAL SUGGESTION

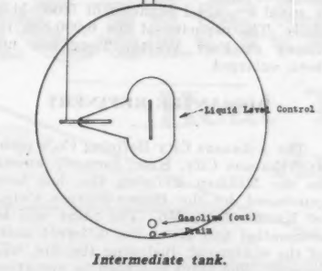
INTERMEDIATE TANK

The present day plant has several gasolines that are obtained at various steps in the modern processes. These gasolines may be low stage gasoline precipitated in the low stage accumulator; gasoline made direct from the still in the absorption process; high stage gasoline condensed in the high pressure accumulators in the compression process; recompressor condensate of tail vapors and drip gasoline and rerun gasoline accumulated from several sources, which sometimes amounts to large quantities of gasoline in gas lift operations.

Since all of these products are given a common processing, namely, chemical treatment for the doctor and corrosion test together with fractionation or stabilization, it is sometimes expedient to collect them in a single tank before going through these processes. This common tank in high pressure fractionation is sometimes referred to as a surge tank, and is called an intermediate tank in this suggestion.

One reason for this intermediate tank is to provide a more uniform stream in the subsequent processes as the rate of make or accumulation of some of the gasolines is irregular or spasmodic. The unfinished gasoline condensed at some of the gas-lift plants where these operations are carried out separately is pumped to the gasoline plant for finishing.

The intermediate tank gasoline outlet line carries a check valve to prevent back flow and a safety valve to relieve excessive pressures. A liquid level control is connected to the center of the tank. Directy above the liquid level control is mounted a balanced valve on a vapor line that may be connected to the low stage compressors or field line intake.



Intermediate tank.

The liquid level control is connected directly to the lever of the balanced valve. As the gasoline rises in the intermedite tank the vapor relief valve is gradually closed and the pressure raised and therefore increases the rate at which gasoline is discharged from the tank. Also it has a tendency to slow up the gasoline coming into the tank and thereby smooths out the overloads.

Practical suggestions by those connected with the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.

Suggest Addition Of Warning Agent To Liquefied Gas

The addition of a warning agent to the ordinary liquefied gases now being distributed for household fuel has been suggested by the Bureau of Mines as a precautionary measure. Propane, butane pentane and their mixtures do not have readily perceptible odor even in concentrations above their inflammable points and may be present in a sufficient concentration to cause vertigo without giving a warning. These products generally constitute the great bulk of the liquefied gases now being distributed for household use but there is also a considerable volume of other fractions of the natural gasoline which are being distributed for gas enrichment, refrigeration, and for industrial uses where special heat treatment is found advantageous. For this reason, the experiments conducted by the Bureau of Mines included a study of the toxicity and inflammability of all hydrocarbons from propane to heptane inclusive.

The general procedure of the government tests was divided into two parts. Four girls acted as subjects and reported the physiological effect of each gas at various concentrations. The one set of experiments was carried out while the concentration of the gas was gradually increased and the effect was recorded at two minute intervals. Under the other procedure, the subject entered a compartment containing a predetermined concentration of the gas. The two series of tests were intended to bring out the effect of remaining in a room into which a small stream of gas was leaking and then to determine the effect of entering a room which had been filled with the gas.

The results of the test showed that the odor and physiological response were found to increase with increasing number of carbon atoms in the substance (C_3H_8; C_4H_{10}; C_5H_{12}; C_6H_{14}, and C_7H_{16}). The odors of heptane and hexane are easily noticeable in concentrations below their lower inflammable limits. Likewise, heptane and hexane vapors produce distinct symptoms, principally vertigo, after a few minutes' exposure to concentrations below their lower inflammable limits. The odor of pentane is indistinct and that of butane and propane practically absent in lower inflammable limit mixtures. Also, distinct warning symptoms are not produced after several minutes' exposure to hazardous vapor-air mixtures of pentane, butane and propane.

The problem was suggested to the Bureau by G. G. Oberfell of the Phillips Petroleum Co., who also aided in outlining the procedure for the test.

SHAFFER EXPANDS OUTLETS

The Shaffer Oil & Refining Co. has opened an office at 111 Broadway, New York, N. Y. The new office will handle the European and South American business of the company. J. Jones Harvey who has been closely identified with the petroleum export business for the past 10 years is in charge of the office. Mr. Harvey formerly was connected with the Swan-Finch Oil Co. and later in charge of export sales for the Beacon Oil Co.

BROWN SUCCEEDS BARNESON

Lionel Barneson, president of General Petroleum Corp., subsidiary of Standard Oil Co. of New York, has resigned, effective February 1. R. A. Brown, formerly vice president and general manager of General Petroleum, has been named president succeeding Mr. Barneson.

Brief Items for Petroleum Refiners

Quaker State Adds McKean Refinery to Its Lub Oil Plants

The Quaker State Oil Refining Co. of Oil City, Pa., added a fourth refining company to its properties last week, when it purchased the McKean County Refining Co. with a plant at Farmers Valley, Pa., near Smethport. The Quaker State interests one of the largest distributors of lubricating oils refined from Pennsylvania grade crude oil for some time have owned the Independent Refining Co. of Oil City, Pa., the Emlenton Refining Co. of Emlenton, Pa., and the Ohio Valley Refining Co. of St. Marys, W. Va. All three of these companies operate refineries with a large output of lubricating oils.

The McKean County refinery, which has now been added to the list of Quaker State plants was built in 1923 and at present has a rated crude capacity of 1,000 barrels daily. The new owners will make numerous improvements at the plant as has been done recently at the other refineries, so that it can manufacture the Quaker State oils. New distilling, filtering and barreling facilities are to be added immediately. The plant operates with crude oil from the Bradford, Pa., field.

H. H. Redfield is president of the McKean County Co. F. G. Bishoff is vice president, K. B. Ogilvie, secretary and P. J. Megivern, Jr., treasurer.

FIRST EXHIBITION BY NATIONAL OIL SHOW

CHICAGO, Ill., Jan. 13.—The first exhibition by the members of the National Oil Show, Inc., and others will be held at the Hotel Sherman, Inc., beginning January 19 and continuing until January 25. The organization which is arranging for and will sponsor this exhibition was formed about one year ago. Its membership consists very largely of manufacturers of equipment and material used by oil jobbers and other branches of the industry which have to do with the sale of petroleum products.

The active manager of the organization is Lou Harrington, who, for some time, was the managing secretary of the Independent Oil Men of America. On his resignation from that position he became the manager of the National Oil Show, Inc., and has had charge of the building up of the organization. This first exhibition is, in a way, a showing of what the organization has accomplished during its brief existence.

A large list of exhibitors has been arranged for and as most of them are members of the organization they are planning to make their displays something rather out of the ordinary.

A varied and interesting program is being prepared and particular attention will be given to round table discussions of oil men and to the gatherings of state associations when such plan to hold meetings at this convention.

The National Oil Show also announces that shortly after the close of the present exhibition at the Hotel Sherman present plans provide for the occupancy of an entire floor in one of the new and large buildings in this city. The floor will have an area of 10,000 square feet, providing space for 150 exhibits. It is planned to have it open each business day. There will be attendants present at all times to properly explain and display the various exhibits. The plan is as yet tentative, but the management state that they have received many encouraging comments on the idea.

TO BUILD REFINERY AT LUBBOCK, TEXAS

FORT WORTH, Tex., Jan. 14. The Texas Pacific Coal & Oil Co. has purchased a 186-acre tract between the Santa Fe and Fort Worth & Denver Railroad tracks near the town of Lubbock, Tex., and are planning on building a refinery. Oil will be shipped from West Texas to the refinery via tank car. It will be the first refinery built in that area.

CRACKING UNITS UNDER WAY AT GULF REFINERY

The Gulf Refining Co., which has a large refinery improvement program planned for 1930 now has new cracking units under construction with a capacity of 26,000 bbls. daily at its Port Arthur, Tex., refinery. The refinery, which has a crude oil capacity of 125,000 bbls. daily has cracking equipment at the present time with a rated capacity of 52,000 bbls. daily. The cracking units now operating are of the Gulf and Holmes-Manley type.

In addition to the cracking equipment large expenditures are being made on other phases of the refinery operation, including the installation of large vacuum pipe stills for processing crude oil. The Port Arthur refinery, which is the largest single plant of the oil industry is complete in its operations.

Enlargement and improvement programs have either been completed or are under way at the four other Gulf refineries located in the United States. The Bayonne, N. J., refinery, which was built about four years ago as a topping plant now has a rated crude oil capacity of 30,000 bbls. daily with one unit of the de Florez cracking process in operation.

The Philadelphia, Pa., refinery, which was built since the Bayonne plant was completed, is now the second largest of the Gulf plants, with a crude oil capacity of 40,000 bbls. daily. Cracking equipment of the Gulf type has been completed with a capacity of 8,000 bbls. daily. The refinery also has a lubricating oil plant.

Gulf cracking stills have been installed at the Sweetwater, Tex., refinery of the company. These units have a capacity of 4,000 bbls. daily. This refinery has a rated crude oil capacity of 5,000 bbls. daily. The capacity of the 6,000-bbl. refinery at Fort Worth, Tex., has not been enlarged.

DISMANTLE REFINERY

The Arkansas City Refining Co.'s plant at Arkansas City, Kan., formerly known as the Milliken Refining Co., has been purchased by the Brown-Strauss Corp., of Kansas City, Mo. The plant will be dismantled and all of the different units of the equipment, including the site, will be sold. The plant has been in operation until about the latter part of 1926. It has a capacity to skim and reduce 8,000 bbls. of crude daily. In addition to the reducing stills and cracking units, the plant includes a complete 100-ton carbondale wax plant, filter house, blowhouses, clay-burning equipment and facilities and tankage for the manufacture of lubricating oils.

Approximately 500,000 bbls. of storage tankage is on the plant site and will be dismantled and sold. Equipment also includes a 160-car all-steel modern loading rack. There are more than 400 miles of pipe on the surface and buried in the ground on the plant site.

ANNOUNCE PROGRAM FOR FIRE MARSHALS MEETING

The program for the annual meeting of the Fire and Safety Marshals of the National Petroleum Association which will be held at the William Penn Hotel, January 24 has been completed and all arrangements made for the one day meeting. Representatives of a large number of refinery organizations in Pennsylvania, Ohio and West Virginia will attend the meeting.

Although two specially prepared addresses will be presented at the meeting the greater part of the day will be spent in informal discussion of reports from several groups. All those attending the meeting are invited to take part in the discussions. Following is the program as announced by the Washington offices of the association:

Program

1. Opening Talks—James H. Herbert, president of the Fire and Safety Marshals; E. M. Lyons, president of the National Petroleum Association; R. A. Wotowitch, trustee in charge, Department of Fire Prevention and Safety, National Petroleum Association.

2. Reports of Groups—Bradford, Fred Mulhaupt; Oil City, Robert M. Downing; Pittsburgh, Robert F. King; Warren, Sherman Brown; West Virginia, M. D. Manz. Other groups.

Note—The report from each group is to be made by the chairman of the group or any man appointed by the group, to present the consensus of opinion, after group meetings have been held and the following points have been discussed:

(a) Organized meetings, number, frequency and procedure; (b) Fires experienced; (c) Unusual accidents; (d) Digest of best recommendations made during the year covering fire prevention and also accident prevention; (e) Plans made in the group for first-aid teams; (f) Value companies have obtained as a result of the group activities; (g) Suggestions for improving the department's activities; (h) Plans for the coming year.

3. Address: "Fire Hazards and Fire Prevention." Franklin L. Newcomb, Standard Oil Development Co.

4. Address: "Safe Practices Prevent Fires." H. N. Blakslee, Petroleum Representative and Secretary, National Safety Council.

5. Election of officers.

O'BYRNE WITH UNION ASPHALT

E. F. O'Byrne, for the past several years manager of traffic and sales for the Lion Oil Refining Co., has been elected vice president of the Union Asphalt Co. of El Dorado, Ark. He succeeds T. E. Coale. Announcement of the change in the Union organization was made by J. B. Sowell, president.

SPARTAN PETROLEUM

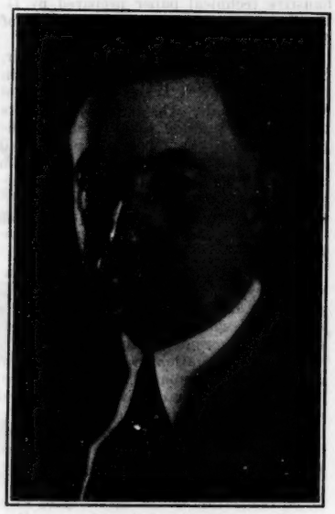
CHICAGO, Jan. 11.—The Spartan Petroleum Co., of this city, the new distributing organization which will handle the products of the Transcontinental Oil Co., is now operating its stations in this city. It is still planning to increase the number of its outlets. The management plan to have at least 25 outlets in the near future, that number to be increased as opportunity offers.

MILLER WITH COSDEN

CHICAGO, Jan. 11.—Samuel Miller is now connected with the Cosden Oil Co., Inc., visiting its stations and planning for an increase of the number of outlets for "Cosden Liquid Gas" in this territory. He was, for a number of years, in charge of the lubricating oil department with the Shaffer Oil & Refining Co.

Garrett Resigns as Vice President of Tidal Refining Co.

A. F. Garrett, who has been connected with Mid-Continent refining and marketing activities for several years, resigned effective January 15 as vice president and general manager of the Tidal Refining Co., Tidal Western Oil Corp. and the Tidal Pipe Line Co., Tulsa.



A. F. Garrett

Mr. Garrett joined the Tidal organization in 1920 as sales manager. Previously he had been in charge of sales for the Roxana Petroleum Corp., now the Shell Petroleum Corp., with headquarters in St. Louis. Mr. Garrett later was made vice president of the Tidal company and three years ago was elected general manager of the three companies.

At the time Mr. Garrett joined the Tidal organization, the operation of the Drumright, Okla., refinery, which now has a capacity of 10,000 bbls. daily, had just started. About the same time the company organized the Tidal Western Oil Corp. to operate a refinery at Burkburnett, Tex. The output of these refineries has been largely sold to jobbers; and due to that fact Mr. Garrett enjoys an exceptionally wide acquaintanceship among the jobbing trade of the Middle West. He has not announced his plans for the future. His successor in the Tidal organization has not been announced.

TO DISCUSS MOTOR FUEL AT AUTOMOTIVE MEETING

Several papers of special interest to refiners and marketers of gasoline will be presented at the annual meeting of the Society of Automotive Engineers to be held January 20 to 24 at the Book-Cadillac Hotel, Detroit. Five papers will be read at meetings to be held January 21.

Following are the papers to be presented: "Properties of Gasoline With Reference to Vapor Lock," O. C. Bridgeman, Bureau of Standards; "Influence of Atmospheric Conditions on Knock Testing," D. B. Brooks, Bureau of Standards; "Detonation Characteristics of Some of the Fuels Suggested as Standards of Anti-Knock Quality," J. M. Campbell, W. G. Lovell and T. A. Boyd; and "Fundamentals of Detonation," Oliver Thornycroft of Richards & Co., Ltd., Sussex, England.

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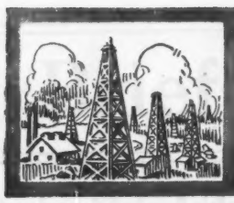


REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	Jan. 14		Jan. 7		Dec. 31	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.06½	.06¾	.06½	.07	.06½	.07
56-58 4o0 endpoint	.06¼	.06½	.06¼	.06½	.06¼	.06¾
*58-60 437 endpoint (U. S. Motor)	.0692		.0692		.0685	
*60-62 437 endpoint	.0663		.0687		†.07	
*60-62 400 endpoint	.0738		.0744		.074	
*64-66 375 endpoint	.0788		.08		.08	
68-70 360 endpoint	.08	.08¼	.08	.08¼	.08	.08¼
64-66 437 endpoint (blend)	.06½	.07	.07	.07¼	.07	.07¼
NORTH TEXAS—						
56-58 450 endpoint	.06¼	.06½	.06¼	.06½	.06¼	
58-60 460 endpoint	.06¼		.06¼		.06¼	
58-60 437 endpoint (U. S. Motor)	.06¼	.06½	.06¼	.06½	.06¼	.06½
60-62 400 endpoint	.06½		.06½	.06¾	.06¾	.07
64-66 390 endpoint	.07¼	.07½	.07⅝	.07⅝	.07⅝	.07⅝
64-66 375 endpoint	.07⅝	.08	.07¾	.08	.07¾	.08
68-70 360 endpoint	.08	.08¼	.08	.08¼	.08	.08¼
64-66 437 endpoint (blend)	.06¾	.07	.07	.07¼	.07	.07¼
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.07	.07¼	.07	.07¼	.07	.07¼
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.07	.07¼	.07	.07¼	.07	.07¼
PENNSYLVANIA—						
52-54 Naphtha	.07¼	.07½	.07¼	.07½	.07¼	.07½
54-56 Naphtha	.07¼	.07½	.07¼	.07½	.07¼	.07½
58-60 Gasoline	.07¾	.08	.07¾	.08	.07¾	.08
60 Gasoline	.08	.08¼	.08	.08¼	.08	.08¼
62 Gasoline	.08¼	.08½	.08¼	.08½	.08¼	.08½
64 Gasoline	.08½	.08¾	.08½	.08¾	.08½	.08¾
68-70 350 endpoint gasoline	.09½	.09¾	.09½	.09¾	.09¾	.10
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06½	.07	.06½		.06½	
56-58 450 endpoint	.06¼		.06¼	.06½	.06¼	.06⅝
58-60 437 endpoint (U. S. Motor)	.06¼	.06¾	.06	.06¾	.06¼	.06¾
60-62 400 endpoint	.06¾	.07	.06⅞	.07¼	.07	.07¼
64-66 375 endpoint	.06¾	.08	.07¾	.08	.07¾	.08
68-70 360 endpoint	.08	.08¼	.08⅞	.08⅜	.08¼	.08½
64-66 437 endpoint (blend)	.06½	.07	.06½	.07	.06¾	.07
GULF COAST (Export)—						
58-60 (U. S. Motor)	.08½		.08½		.08½	
60-62 400 endpoint	.09½		.09½		.09½	
61-63 390 endpoint	.09¾		.09¾		.09¾	
64-66 375 endpoint	.10		.10		.10	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

NATURAL GASOLINE

	Jan. 14		Jan. 7		Dec. 31	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¼	.05½	.05½		.06¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05		.05½		.06	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04¼		.05		.05⅝	
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅞	.04¼	.05		.05⅜	
Grade C, 80-90, 375 e.p., rec. 78%	.04		.05		.05⅜	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¼	.05½	.05½		.06¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05		.05½		.06	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04¼		.05		.05⅝	
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅞	.04¼	.05		.05⅜	
Grade C, 80-90, 375 e.p., rec. 78%	.04		.05		.05⅜	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.05½		.06		.06¼	.06⅜
Grade BB, 84-92, 375 e.p., rec. 85%	.05		.05½		.06	.06¼
Grade C, 80-90, 375 e.p., rec. 78%	.04¾	.05	.05¼	.05½	.05¾	.06
CALIFORNIA—						
75-78 375-390 endpoint	.08½	.09	.08½	.09	.08	.08½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.06¼	
Grade AA, 80-87, 375 e.p., rec. 90%	.05		.05½		.06	.06¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.04		.05		.05⅜	
Grade BB, 84-92, 375 e.p., rec. 85%	.04		.05		.05⅜	
Grade C, 80-90, 375 e.p., rec. 78%	.04		.05		.05⅜	

BURNING OIL

	Jan. 14		Jan. 7		Dec. 31	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.04⅛	.04½	.04⅛	.04½	.04⅛	.04½
42-44 water white kerosene	.04½	.04¾	.04⅜	.04⅝	.04⅜	.04⅝
NORTH TEXAS—						
41-43 water white kerosene	.04⅛		.04	.04⅛	.04	.04⅛
40-42 water white kerosene	.04		.03⅞	.04	.03⅞	.04
***NORTH LOUISIANA—**						
41-43 water white kerosene	.05	.05¼	.05		.05	
***ARKANSAS—**						
41-43 water white kerosene	.05	.05¼	.05		.05	
PENNSYLVANIA—						
43 Kerosene prime white	.05¾	.06	.05¾	.06	.05¾	.06
45 Kerosene water white	.06	.06¼	.06	.06¼	.06	.06¼
46 Kerosene water white	.06¾	.06⅞	.06¾	.06⅞	.06¾	.07⅛
47 Kerosene water white	.06¾	.07	.06¾	.07	.06¾	.07
300 Mineral Seal	.07	.07¼	.07	.07¼	.07	.07¼
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.05	.05½	.05	.05½	.05	.05½
Engine distillate, 43-44, 445 endpoint	.07	.07½	.07	.07½	.07	.07½
Engine distillate, 42-44, 480 endpoint	.06¾	.07¼	.06¾	.07¼	.06¾	.07¼
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04⅛	.04⅜
42-44 water white kerosene	.04¼	.04¾	.04¼	.04½	.04½	.04¾
GULF COAST (Export)—						
41-43 prime white	.07		.07		.07	
41-43 water white	.08		.08		.08	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Jan. 14		Jan. 7		Dec. 31	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.70	.80	.70	.80	.70	.75
18-22 Fuel Oil, per bbl.	.75	.85	.75	.85	.75	.80
20-22 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
22-26 Fuel Oil, per bbl.	.85	.90	.85	.90	.85	.90
24-26 Fuel Oil, per bbl.	.90	1.00	.90	1.00	.90	.95
26-30 Fuel Oil, per bbl.	1.00	1.05	1.00	1.05	1.00	1.05
28-30 Fuel Oil, per bbl. (industrial)	1.15	1.25	1.15	1.25	1.15	1.25
32-36 Gas Oil (industrial)	.02⅞	.03	.02⅞	.03	.02⅞	.03
32-36 Gas Oil (straw color)	.03⅛	.03¼	.03⅛	.03¼	.03¼	.03¼
36-38 Distillate	.03½	.03¾	.03½	.03⅞	.03⅝	.03⅞
38-40 Straw Distillate	.03⅝	.04	.03⅝	.04	.03¾	.04
NORTH TEXAS—						
Below 20 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
24-26 Fuel Oil, per bbl.	.85	.90	.85	.90	.85	.90
32-36 Gas Oil (straw)	.02¾	.03	.02⅞	.03	.02⅞	.03
38-40 Straw Distillate	.03⅝	.04	.03¾	.04	.03¾	.04
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
30-32 Gas Oil	.03¼	.03½	.03¼	.03½	.03¼	.03½
***ARKANSAS—**						
33-36 Distillate	.03⅝	.04	.03⅝	.04	.03⅝	.04
30-32 Gas Oil	.03¼	.03½	.03¼	.03½	.03¼	.03½
16-22 Refinery Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
GULF COAST (South Texas)—						
Gas Oil	.04	.04¼	.04	.04¼	.04	.04¼
Bunger C Fuel (cargo lots), per bbl.	.65	.70	.65	.70	.65	.70
Bunker C Fuel (small lots)	1.00	1.05	1.00	1.05	1.00	1.05
PENNSYLVANIA—						
30-34 Fuel Oil	.04½	.04¾	.04½	.04¾	.04½	.04¾
36-40 Fuel Oil	.04⅝	.04¾	.04⅝	.04¾	.04⅝	.04¾
CALIFORNIA—						
33-36 Distillate	.03½	.04	.03½	.04	.03½	.04
26-32 Distillate	.02	.02½	.02	.02½	.02	.02½
15-20 Fuel Oil, Bunker (at tidewater)	.70	.80	.70	.80	.70	.80
15-20 Fuel Oil (cargo lots), per bbl.	.60	.75	.60	.75	.60	65
27 plus Diesel, per bbl.	.90	1.05	.90	1.05	.90	1.05
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.90	.95	.90	.95	.90	.95
18-22 Fuel Oil, per bbl.	.80	.85	.85	.90	.80	.85
28-30 Fuel Oil, per bbl.	1.20	1.25	1.20	1.30	1.25	1.30
32-36 Gas Oil (zero)	.03¼	.03⅜	.03⅜	.03½	.03¼	.03½
32-36 Gas Oil (industrial)	.02⅝	.02⅞	.02¾	.02⅞	.02¾	.02⅞
36-38 Distillate	.03½	.03⅝	.03⅜	.03⅝	.03⅝	.03¾
38-40 Straw Distillate	.03⅝	.03⅞	.03⅝	.03⅞	.03⅞	.04

*Louisiana, Arkansas, Mississippi and East Texas delivery.

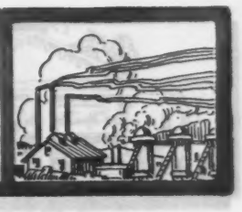
LUBRICATING OIL AND WAX

	Jan. 14		Jan. 7		Dec. 31	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06¾	.07	.06¾	.07	.06¾	.07
100 vis., 3 color, 20-25 cold test	.05¾	.06	.05⅞	.06	.05¾	.06
150 vis., 3 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
150 vis., 4 color, 20-25 cold test	.07⅜	.08	.07¾	.08	.07¾	.08
180 vis., 3 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
180 vis., 4 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
180 vis., 5 color, 23-28 cold test	.09	.09¼	.09	.09¼	.09	.09¼
200 vis., 3 color, 23-28 cold test	.10¾	.11	.10¾	.11	.10¾	.11
200 vis., 4 color, 23-28 cold test	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 5 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
240 vis., 3 color, 25-30 cold test	.14¼	.14½	.14¼	.14½	.14¼	.14½
240 vis., 4 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 5 color, 25-30 cold test	.12¾	.13	.12¾	.13	.12¾	.13
280 vis., 3 color, 25-30 cold test	.16¾	.17	.16¾	.17	.16¾	.17
280 vis., 4 color, 25-30 cold test	.15¾	.16	.15¾	.16	.15¾	.16
280 vis., 5 color, 25-30 cold test	.14¾	.15	.14¾	.15	.14¾	.15
Cylinder Stocks:						
600, steam refined, light green	.10	.12	.10	.12	.10	.12
600, steam refined, dark green	.09	.11	.09	.11	.09	.11
190-200 vis., D color Bright Stock	.41	.42	.41	.42	.41	.42
150-160 vis., D color Bright Stock	.37		.37		.37	
150-160 vis., E color Bright Stock	.32	.35	.32	.35	.32	.35
Waxes:						
124-126 White Crude Scale Wax	.02½	.02¾	.02¾		.02¾	
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07½	.07¾	.07½	.07¾	.07½	.07¾
36 Miners' Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
150, 3 color	.15½	.16	.15½	.16	.15½	.16
180, 3 color	.21½	.22	.21½	.22	.21½	.22
200, 3 color	.24	.24½	.24	.24½	.23½	.24
220, 3 color	.28½	.29	.28½	.29	.28½	.29
600, steam refined	.22½	.23	.23½	.24	.25½	.26
635, steam refined	.28½	.29	.29½	.30	.30	.30½
650, steam refined	.29½	.30	.30	.30½	.30½	.31
600, Pennsylvania Flash	.29½	.30	.30½	.31	.31½	.32
630, Pennsylvania Flash	.34½	.35	.34½	.35	.34½	.35
600, E filtered	.30½	.31	.30½	.31	.30½	.31
600, D filtered	.34½	.35	.34½	.35	.35½	.36
Pennsylvania Bright Stocks	.42	.43	.43	.44	.44	.45
*122-124 White Crude Scale Wax	.03	.03⅛	.03	.03⅛	.03	.03⅛
*124-126 White Crude Scale Wax	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.06	.06½	.06	.06½	.06	.06½
No. 3 color, 200 vis., pale oil	.08½	.09	.08½	.09	.08½	.09
No. 3 color, 300 vis., pale oil	.09¾	.10	.09¾	.10	.09¾	.10
No. 3½ color, 500 vis., pale oil	.11	.11½	.11	.11½	.11	.11½
No. 4 color, 750 vis., pale oil	.12	.13	.12	.13	.12	.13
No. 5 to 6 color, 200 vis., red oil	.07	.08	.07	.08	.07	.08
No. 5 to 6 color, 300 vis., red oil	.08½	.09	.08½	.09	.08½	.09
No. 5 to 6 color, 500 vis., red oil	.09	.10	.09	.10	.09	.10
No. 5 to 6 color, 750 vis., red oil	.11½	.12½	.11½	.12½	.11½	.12½
No. 2½ color, 200 vis., pale filtered	.11	.12	.11	.12	.11	.12
No. 2½ color, 300 vis., pale filtered	.12	.13	.12	.13	.12	.13

*At New York.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.



No. 2½ color, 500 vis., pale filtered	.14½	.15	.14½	.15	.14½	.15
No. 2½-3 color, 750 vis., pale filtered	.17	.19	.17	.19	.17	.19
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.14¼	.15½	.14¼	.15½	.14¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Jan. 14		Jan. 7		Dec. 31	
Gasoline, U. S. Motor, 58-60, 437	.08⅝	.08¾	.08⅝	.08¾	.08⅝	.08¾
Kerosene, water white, 41-43	.07¾		.07¾		.07¾	
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.05		1.05		1.05	
†Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
25 pale Paraffin Oil	.10½		.10½		.10½	
28 pale Paraffin Oil	.07¼		.07¼		.07¼	
285 red Paraffin Oil	.12½		.12½		.12½	
250 red Paraffin Oil	.11½		.11½		.11½	
225 red Paraffin Oil	.10		.10		.10	
200 red Paraffin Oil	.09¼		.09¼		.09¼	
Refined Wax:						
120-122 a.m.p., per lb.	.03⅜		.03⅞		.03⅞	
125-127 a.m.p., per lb.	.03⅞		.04		.04	
130-132 a.m.p., per lb.	.04⅜		.04⅜		.04⅜	
133-135 a.m.p., per lb.	.05⅝		.05⅝		.05⅝	
135-137 a.m.p., per lb.	.05⅞		.06		.06	
Petrolatum in barrels, carload lots, per pound:						
Dark Green	.01⅞		.01⅞		.01⅞	
Amber	.03⅝		.03⅜		.03⅜	
Extra Amber	.03½		.03½		.03½	
Cream	.06¾		.06¾		.06¾	
Lily White	.07¼		.07¼		.07¼	
Snow White	.08⅜		.08⅜		.08⅜	

*Lighterage 5.0 cents a barrel extra. †Lighterage 6.5 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Jan. 14	Jan. 7	Dec. 31
Kerosene, prime white	.07¾	.07¾	.07¾
Kerosene, water white	.09	.09	.09
600, steam refined cylinder stocks, in bbls.	.31	.31	.32
635, steam refined	.33	.33	.34
650, steam refined	.37	.37	.38
600, Pennsylvania Flash	.40	.40	.41
630, Pennsylvania Flash	.43	.44	.45
600, Warren E	.39½	.40	.40
600, Oil City E	.38½	.39	.39
Light 140-150 Bright Stocks	.50 .51	.52 .53	.52 .53
Dark 140-150 Bright Stocks	.49 .50	.50 .51	.50 .51

LOS ANGELES EXPORT PRICES

	Jan. 14	Jan. 7	Dec. 31
Kerosene, water white	.04½ .05	.04½ .05	.04½ .05
U. S. Motor Gasoline, 53-55, 437 e.p.	.06¼ .06¾	.06¼ .06¾	.06¼ .06¾

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posts all oil 40 gravity and above at $1.65 on November 24.

Corsicana heavy (January 11)*.....$ .80

Other fields.....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

WEST TEXAS

Iatan*.....Same as North Texas

Crane-Upton-Crockett, Pecos, Winkler and Mitchell.....See gravity table, column 3

Howard and Glasscock.....See gravity table, column 11

Chalk†.....$ .65

*Includes Westbrook Field.
†Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (May 20, 1929).....$ .85

Smackover, 24 gravity and above (May 20, 1929)..... 1.00

Cotton Valley, below 36 gravity (May 22)..... .85

Bellevue (May 29, 1929)..... 1.30

Urania (May 21, 1929)..... 1.10

East El Dorado (May 22, 1929)..... .85

Other fields.....See gravity table

Cotton Valley crude about 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

Grade A (May 20)*.....$1.30

Grade B.....See gravity table

Jennings, La. (March 14)†..... 1.05

Saratoga, Batson, Dayton (March 14, 1927)‡..... 1.20

Refugio¶..... .70

Markham (March 14)§..... 1.00

High Island (December 14)¶..... 1.00

*Humble Oil & Refining Co., The Texas Company, Gulf Pipe Line Co., and Sun Pipe Line Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Company. ¶Posted by Gulf Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.
(Effective May 21, 1929)

Rock Creek, Wyo.....$1.40

Salt Creek.....See gravity table

Big Muddy.....$1.43

Grass Creek, heavy (July 27, 1928)..... .90

Grass Creek, light..... 1.65

Mule Creek..... 1.20

Elk Basin..... 1.65

Lance Creek..... 1.68

Poison Spider (March 14, 1927)..... 1.00

Notches (March 14, 1927)..... .65

Rex Lake (February 22)..... 1.10

Osage..... 1.55

Lost Soldier (contract, May 22)..... 1.05

Hamilton Dome (March 14, 1927)..... .85

Pedro..... 1.25

Greybull..... 1.65

Four Bear..... .85

Cat Creek (Montana) (July 27, 1928)..... 1.48

Sunburst (Montana) (May 23, 1929)..... 1.75

Torchlight..... 1.65

Hogback (New Mexico)..... 1.70

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

(Continued on Page 134)

CRUDE OIL GRAVITY TABLE

Gravity—	1 Okla., Kans., N. C. Texas	2 No. La. and Arkansas	3 Crane, Upton, Crockett, Winkler, Pecos, Mitchell, Texas crudes, and Lea, N. Mex.	4 Stephens, Ark.	5 Wheeler (Texas Panhandle)	6 Gray County (Texas Panhandle)	7 Carson and [illegible] (Texas Panhandle)	8 Salt Creek, Wyo.	9 Grade B and Light Crude (G. Coast)	10 Somerset (South Central Texas)	11 Howard and Glasscock, W. Tex.
24 and above.	....	....	....	....	....	....	....	....	....	....	....
Below 24	....	....	....	....	....	....	....	....	....	....	....
Below 25	.85	....	.70	....	....	....	....	....	1.15	....	.70
25 to 25.9	.90	....	.74	....	....	....	....	....	1.18	....	.74
26 to 26.9	.95	....	.78	....	....	....	....	....	1.21	....	.78
27 to 27.9	1.00	....	.82	....	....	....	....	....	1.24	....	.82
Below 28	....	1.00	....	.90	.90	.90	.90	....	....	....	....
28 to 28.9	1.05	1.05	.86	.94	.90	.90	.90	....	1.27	....	.84
29 to 29.9	1.10	1.10	.90	.98	.90	.95	.90	1.10	1.30	....	.86
30 to 30.9	1.15	1.15	.94	1.02	.95	1.00	.90	1.15	1.33	....	.88
31 to 31.9	1.20	1.20	.98	1.06	.00	1.05	.90	1.20	1.36	....	.90
32 to 32.9	1.25	1.25	1.02	1.10	1.05	1.10	.95	1.25	1.39	1.05	.92
33 to 33.9	1.30	1.30	1.06	....	1.10	1.15	1.00	1.30	1.42	1.07	.94
34 to 34.9	1.35	1.35	1.10	....	1.15	1.20	1.05	1.35	1.45	1.09	.96
35 to 35.9	1.40	1.40	1.14	....	1.20	1.25	1.10	1.40	1.48	1.11	.98
36 to 36.9	1.45	1.45	1.18	....	1.25	1.30	1.15	1.45	....	1.13	1.00
37 to 37.9	1.50	1.50	....	....	1.30	1.35	1.20	1.50	....	1.15	....
38 to 38.9	1.55	1.55	....	....	1.35	1.40	1.25	....	....	1.17	....
39 to 39.9	1.60	1.60	....	....	1.40	1.45	1.30	....	....	....	....
40 to 40.9	1.65	1.65	....	....	1.45	1.50	1.35	....	....	....	....
41 to 41.9	1.70	1.70	....	....	1.50	1.55	1.40	....	....	....	....
42 to 42.9	1.75	1.75	....	....	1.55	1.60	1.45	....	....	....	....
43 to 43.9	1.80	1.80	....	....	1.60	1.65	1.50	....	....	....	....
44 and above.	1.85	1.85	....	....	1.65	1.70	1.55	....	....	....	....

Column 1, Note—Magnolia Petroleum Co. posted schedule May 20, 1929, making price below 36 gravity 70 cents per barrel, 36-26.9 gravity 75 cents, 27-27.9 gravity 85 cents, 28-28.9 gravity 90 cents, 29-29.9 gravity 95 cents, 30-30.9 gravity $1.05, and 31-31.9 gravity $1.15, with balance of the price schedule as shown above. Top price of Empire Pipe Line Co., effective November 14 for Oklahoma City crude oil, is for 40° and above.

Oklahoma—Carter Oil Co., Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., The Texas Company, May 20.

North Central Texas—Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona and Moran, Prairie Oil & Gas Co., Sinclair Oil & Refining Co., Humble Oil & Refining Co., The Texas Company and Gulf Refining Co., May 20.

Kansas—Prairie, Sinclair, The Texas Company and Carter, May 20.

Column 2—Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, Cotton Valley above 36 gravity, DeSoto, Haynesville, Homer and El Dorado only) May 22, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co., Magnolia Petroleum Co., schedule applies to Pine Island, Haynesville, Bull Bayou, Louisiana and El Dorado, Ark., light crude.

Column 3—Humble Oil & Refining Co. and Magnolia Petroleum Co., May 20.

Column 4—Atlantic Oil Producing Co., Prairie Oil & Gas Co., Louisiana Oil Refining Corp., May 21, 1929.

Columns 5, 6 and 7—Humble Oil & Refining Co., Magnolia Petroleum Co., May 20, 1929.

Column 8—Midwest Refining Co., May 20, 1929. All crude over 37 gravity $1.50 per barrel.

Column 9—Humble Oil & Refining Co., May 20, 1929 (schedule ends 35 and above).

Column 10—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

Column 11—Humble Oil & Refining Co., November 26.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective January 15, 1929)

Gravity—	1 Salt Lake, Newport, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Huntington Beach, Signal Hill (Nov. 8) Athens, Inglewood, Rosecrans-Dominguez, Watsonville	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs (Nov. 8)	6 Santa Maria, Coalinga	7 Wheeler Ridge, Fruitvale	8 Orcutt, Ventura, Rincon	9 Ventura Ave., (Nov. 8)	10 Elwood Terrace	11 Seal Beach (Nov. 4)
14 to 14.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....	.70
15 to 15.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....	.70
16 to 16.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....	.70
17 to 17.9	.70	.70	.50	.70	....	.50	.50	.65	.70	....	.70
18 to 18.9	.75	.75	.56	.70	....	.56	.56	.70	.75	....	.75
19 to 19.9	.80	.80	.62	.75	....	.62	.62	.70	.80	....	.80
20 to 20.9	.85	.84	.68	.80	....	.68	.68	.70	.85	....	.85
21 to 21.9	.89	.88	.74	.85	.89	.74	.74	.86	.86	....	.89
22 to 22.9	.93	.91	.80	.90	.92	.80	.80	.87	.87	....	.93
23 to 23.9	.97	.94	.85	.95	.95	.85	.85	.90	.90	....	.97
24 to 24.9	1.01	.97	.90	.98	.98	.88	.88	.94	.94	....	1.01
25 to 25.9	1.05	1.00	.95	1.01	1.01	.91	.91	.98	.98	....	1.05
26 to 26.9	1.09	1.04	1.00	1.04	1.04	.94	.94	1.02	1.02	....	1.09
27 to 27.9	1.13	1.08	1.05	1.07	1.07	.98	.97	....	1.06	....	1.13
28 to 28.9	1.17	1.12	1.10	1.10	1.10	1.02	....	....	1.10	....	1.17
29 to 29.9	1.21	1.16	1.16	1.13	1.15	1.06	....	....	1.14	....	1.21
30 to 30.9	1.25	1.20	1.22	1.16	1.20	1.10	....	....	1.18	....	1.25
31 to 31.9	1.30	....	1.28	....	1.25	1.14	....	....	1.22	....	1.30
32 to 32.9	1.35	....	1.34	....	1.30	1.18	....	....	1.28	....	1.35
33 to 33.9	1.41	....	1.40	....	1.35	1.22	....	....	1.34	....	....
34 to 34.9	1.47	....	1.46	....	1.40	1.26	....	....	1.40	1.16	....
35 to 35.9	1.53	....	....	....	1.45	1.30	....	....	1.46	1.22	....
36 to 36.9	1.59	....	....	....	1.50	....	....	....	1.52	1.28	....
37 to 37.9	1.65	....	....	....	1.55	....	....	....	1.58	1.34	....
38 to 38.9	1.71	....	....	....	1.60	....	....	....	1.64	1.40	....
39 to 39.9	1.77	....	....	....	1.65	....	....	....	1.70	1.46	....
40 to 40.9	1.83	....	....	....	....	....	....	....	1.76	1.52	....
41 to 41.9	1.89	....	....	....	....	....	....	....	1.82	1.58	....
42 to 42.9	1.95	....	....	....	....	....	....	....	1.88	1.64	....

*October 22. †Sunset Pacific Oil Co., October 26.

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity 45 cents, 14 gravity and above 50 cents, effective October 2, 1929. On December 1, 1928, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 45 cents, 14 gravity and above 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity; Domingues and Athens-Rosecrans, 24 to 42.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Jan. 14

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago†	17.0	18.0	3.0	13.0
Decatur, Ill.	19.2	20.2	3.0	13.1
E. St. Louis	18.4	19.4	3.0	12.2
Joliet	19.4	20.4	3.0	13.3
Peoria	19.2	20.2	3.0	13.1
Quincy	19.2	20.2	3.0	12.9
Davenport, Ia.	19.5	20.5	3.0	13.3
Des Moines	19.5	20.5	3.0	13.3
Keokuk	19.5	20.5	3.0	13.3
Sioux City	19.1	20.1	3.0	12.9
Duluth, Minn.	20.5	21.5	3.0	13.9
Mankato	20.1	21.1	3.0	13.7
Minneapolis	20.2	21.2	3.0	13.9
LaCrosse, Wis.	19.2	20.2	3.0	14.0
Milwaukee	18.1	19.1	3.0	12.9
Madison	18.3	19.3	3.0	13.1
Detroit, Mich.	19.8	20.8	3.0	14.7
Grand Rapids	19.7	20.7	3.0	14.6
Saginaw	19.9	20.9	3.0	14.8
Evansville, Ind.	20.0	21.0	4.0	14.0
Fort Wayne	20.4	21.4	4.0	14.4
Indianapolis	20.2	21.2	4.0	14.2
South Bend	20.4	21.4	4.0	14.4
Fargo, N. D.	21.9	22.9	3.0	15.9
Huron, S. D.	21.3	22.3	4.0	14.7
Sioux Falls	20.1	21.1	4.0	14.4
K. C., Mo.*	18.9	19.9	3.0	11.6
Springfield*	18.8	19.8	3.0	12.5
St. Louis*	17.9	18.9	2.5	12.3
St. Joseph	18.5	19.5	2.0	12.2
Wichita, Kans.	17.8	18.8	3.0	11.8
Bartlesville, Ok.	18.5	19.5	4.0	11.5

*State tax 2 cents; remainder city tax.
†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	12.9
V. M. & P. Naphtha	16.7	13.9
Cleaner's naphtha	17.0	14.9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2¼ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	17.0	21.0	4.0	12.0
Fort Worth	17.0	20.0	4.0	12.0
Houston	15 0	19.0	4.0	11.0
San Antonio	15.0	19.0	4.0	11.0
El Paso	16.0	20.0	4.0	14.0
Texarkana	17.0	19.0	4.0	12.0
Muskogee*	13.0	15.0	4 0	10.0
Okla. City*	15.0	18.0	4.0	10.0
Tulsa*	15.0	19.0	4.0	10.0
Ft. Smith, Ark.	15.0	17.0	5.0	12.0
Little Rock	18.0	20.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	18.0	21.0	4.0	15.5
Pueblo	18.0	21.0	4.0	15.5
Grand Junction	22.5	25.5	4.0	19.0
Casper, Wyo.	19.0	22.0	4.0	14.0
Cheyenne	20.5	23.5	4.0	15.5
Butte, Mont.	25.5	28.5	5.0	20.0
Helena	25.5	28.5	5.0	20.0
Salt Lake, Utah	21.0	24.0	3.5	17.0
Albu'que, N. M.	20.0	22.0	5.0	17.0
Boise, Idaho	23.5	26.5	4.0	19.0
Twin Falls	23.5	27.5	4.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	15.0	*21.0	...	13.0
Philadelphia	15.0	*21.0	...	13.0
Scranton	15.0	*21.0	...	13.0
Allentown	15.0	*21.0	...	13.0
Altoona	15.0	*21.0	...	13.0
Erie	15.0	*19.0	...	13.0
Dover, Del.	18.0	20.0	3.0	13.0
Wilmington	18.0	20.0	3.0	13.0
Springf'd, Mass.	16.0	18.0	2.0	15.0
Worcester	18.0	20.0	2.0	15.0
Boston	18.0	20.0	2.0	15.0
Providence, R.I.	18.0	20.0	2.0	13.0
Hartford, Conn.	18.0	20.0	2.0	15.0
New Haven	18.0	20.0	2.0	15.0

*Includes tax of 4.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	18.0	20.0	2.0	15.0
New York*	16.0	18.0	2.0	15.0
Buffalo	18.0	18.0	2.0	14.0
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.0	20.0	2.0	15.0
Boston, Mass.	18.0	20.0	2.0	15.0
Augusta, Me.	20.0	22.0	4.0	15.0
Manch't'r, N. H.	20.0	22.0	4.0	15.0
Burlington, Vt.	19.0	20.0	4.0	15.0

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	16.0	20.0	4.0	16.5
Augusta	20.0	22.0	4.0	16.5
Macon	21.0	23.0	4.0	16.5
Savannah	22.0	24.0	4.0	15.5
Birm'ham, Ala.	17.0	19.0	4.0	13.0
Mobile	18.0	20.0	4.0	15.0
Montgomery	19.0	21.0	4.0	16.5
Clarks'le, Miss.	18.0	20.0	5.0	12.5
Jackson	19.0	21.0	5.0	13.0
Natchez	20.5	20.5	5.0	14.0
Gulfport	22.5	24.5	5.0	14.0
Vicksburg	20.5	22.5	5.0	14.0
Jack'ville, Fla.	22.0	24.0	6.0	14.5
Miami	23.0	25.0	6.0	16.5
Pensacola	18.0	20.0	6.0	14.5
Tampa	20.0	22.0	5.0	14.5
Lexington, Ky.	20.0	22.0	5.0	15.5
Covington	19.0	20.0	5.0	15.5
Louisville	21.0	23.0	5.0	13.0
Ashland	20.0	21.0	5.0	15.5
Catlettsburg	20.0	21.0	5.0	16.5

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. Pensacola and Mobile taxes include 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco	20.0	23 0	3.0	15.5
Los Angeles	19.5	22.5	3.0	15.5
Reno, Nev.	25.0	28.0	4.0	19.0
Portland, Ore.	26.5	24.5	3.0	16.5
Seattle, Wash.	20.5	23.5	3.0	16.5
Tacoma	20.5	23.5	3.0	16.5
Spokane	24.5	27.5	3.0	20.5
Phoenix, Ariz.	19 5	23.5	4.0	20.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	20.25	22.25	4.0	13.25
McCook	21.75	23.75	4.0	14.75
Norfolk	20.75	22.75	4.0	13.75
N. Platte	21.75	23.75	4.0	14.50
Scottsbluff	21 75	23 75	4.0	14.25

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City	16 5	18 5	2.0	13.5
Newark, N. J.	15.5	17.5	2.0	12.5
Annapolis, Md.	18.0	20.0	4.0	13 0
Baltimore	17.2	19.2	4.0	10 5
Cumberland	19 0	21 0	4.0	14 0
Washington	15.7	17.7	2.0	12.7
Danville, Va.	19.8	21.8	5.0	13 8
Norfolk	18.3	20.3	5.0	11.0
Petersburg	19 3	21 3	5.0	13 3
Roanoke	20.0	22 0	5.0	14 0
Richmond	18.7	20 7	5.0	12.7
Charles'n W.Va.	18 5	20 5	4.0	13.5
Keyser	19 1	21 1	4 0	14.1
Parkersburg	17 2	19 2	4 0	12.2
Wheeling	18 4	20.4	4.0	13.4
Charlotte, N. C.	20 3	22.0	5.0	14.3
Hickory	20 8	22 8	5.0	14 8
Mt. Airy	20 5	22.5	5 0	14 5
Salisbury	20 7	22 7	5.0	14.7
Charleston, S.C.	19.3	21.3	6.0	12.3
Columbia	21.2	23.2	6.0	14.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points*	18.0	19.0	4.0	†12.0

*Dealers and commercial accounts 2 cents under tank wagon.
†Service station price 14 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	15.0	15.0	5.0	13.0
Baton Rouge	16.0	18.0	4.0	14.0
Alexandria	17.0	19.0	5.0	14.0
Lafayette†	18.0	20.0	5.0	14.0
Lake Charles†	18.0	20.0	5.0	14.0
Shreveport	16.0	18.0	4.0	14.0
Knoxv'le, Tenn.	20.0	20.0	5.0	16.0
Memphis	18.0	20.0	5.0	12.5
Chattanooga	20.0	22.0	5.0	13.0
Nashville	19.0	19.0	5.0	16.0
Bristol	19.0	20.0	5.0	14.0
Lt. Rock, Ark.	18.0	20.0	5.0	13.0

*Tax of 5 cents includes city tax of 1 cent. Louisiana Kerosene prices include 1-cent state tax and 1-cent parish tax.
†Includes 1-cent parish tax.

TANK WAGON PRICES

December 21—Magnolia Petroleum Co. advanced the gasoline tank wagon and station prices 1 cent in Little Rock, Ark., to 18 cents and 20 cents.

January 1—Standard Oil Co. of California reduced the gasoline station price (at plant) 1 cent in Los Angeles and San Francisco. On the same date the gasoline tank wagon price was advanced 1 cent and the station price 2 cents in Reno, Nev. The tank wagon price was advanced 1 cent in Portland, Ore., and the tank wagon and station prices were advanced 1½ cents in Phoenix, Ariz. The kerosene price was reduced one-half cent at this point.

January 6—Standard Oil Co. of Louisiana reduced kerosene 1 cent in Alexandria and Lake Charles making the new price 14 cents.

January 6—Magnolia Petroleum Co. reduced kerosene 1 cent in El Paso, Tex., to 14 cents.

January 7—Standard Oil Co. of Louisiana reduced the gasoline tank wagon and station prices 2 cents in Lake Charles and Alexandria, La.

January 8—Standard Oil Co. of Louisiana reduced the gasoline tank wagon price 2 cents in Lafayette, La., and the kerosene price in Baton Rouge, La., one-half cent. On the same date the gasoline station price was reduced 2 cents in Knoxville, Tenn.

January 9—Standard Oil Co. of Louisiana reduced the gasoline tank wagon and the station prices one-half cent in Lake Charles, La. Standard Oil Co. of Indiana resumed normal prices in East St. Louis, Mo., establishing the tank wagon at 18.4 cents and the station price at 19.4 cents.

January 9—Magnolia Petroleum Co. reduced the gasoline tank wagon and station prices 2 cents in Muskogee, Okla., to 13 cents and 15 cents.

January 10—The Atlantic Refining Co. reduced the gasoline tank wagon and station prices 2 cents in Springfield, Mass., to 16 cents and 18 cents.

January 11—Magnolia Petroleum Co. reduced the gasoline tank wagon and station prices 2 cents in Oklahoma City, Okla., to 15 cents and 18 cents.

APPOINTED CHAIRMAN

Walter H. Meier, chief engineer of the Atlantic Oil Producing Co., Dallas, has been appointed chairman of the American Petroleum Institute's committee for the southwestern district, Division of Development and Production Engineering. Mr. Meier succeeds Alex S. Feild, former district superintendent of the Shell Oil Co. at Dallas, who recently resigned to go to Chicago for the Naylor Pipe Co.

CRUDE OIL PRICES

(Continued from Page 133)

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

Darst Creek (Jan. 2, 1930)*	$1.25
Luling (May 2)*	.90
Mirando (May 20, 1929)†	.90
Salt Flat (May 20, 1929)‡	1.25
Rockdale Minerva (April 15)	
Below 28 gravity	1.25
38-38.9 gravity	1.27
39-39.9 gravity	1.29
40 and above	1.31
Thrall‡	...
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.
‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
§Humble Oil & Refining Co.

EASTERN STATES
Joseph Seep Purchasing Agency
(Effective October 1, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.05
Bradford District Oil in National Transit Lines (Pennsylvania)	3.05
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.05
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.70
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Line (May 22, 1929)	1.70
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines (May 22, 1929)	1.30
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (Nov. 12, 1929)	1.55
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29)	.60
Wayne district oil in Cumberland Pipe Lines	1.42

MDDLE WESTERN STATES
Ohio Oil Co.
(Effective May 21, 1929)

Lima	$1.80
Wooster	1.90
Illinois	1.75
Indiana	1.57
Princeton	1.75
Plymouth	1.28
Waterloo (November 17, 1926)	1.35
Western Kentucky	1.68
Dundee, Mich. (Sept. 17, 1929)‖	
....Same as Mid-Continent gravity scale	
Upper and Lower Traverse sands, Mich.‖	
....Same as Mid-Continent gravity scale	
Midland, Mich. (December 6, 1929)*	$1.50
Saginaw, Mich., Saginaw Sand (February 10)†	1.39
Saginaw, Mich., Berea Sand (February 10)†	1.79
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)‡	1.50
Oil in line in Stoll Oil Refinery Co. in Oil City, Ky. (Oct. 7, 1929)§	1.70
Oil Springs (Canada)¶	2.27
Petrolia (Canada)¶	2.20

*Posted by Pure Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.
‖Posted by Standard of Indiana for boat shipment.

MEXICAN CRUDE

Panuco*	$ .65

*Based on November transactions for deliveries during December and January. Price exclusive of taxes.

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Vacuum Makes Change in Officers

G. P. Whaley to Be Chairman, Herbert Baker Vice Chairman and C. E. Arnott President. Number of Directors Increased

A special meeting of the shareholders of the Vacuum Oil Co. has been called for the purpose of authorizing a change in the officers of the company, and increasing the number of directors. Under the present by-laws, the president is the chief executive officer of the company. He is also chairman of the board of directors. The directors believe it is desirable to create two new executive offices, and it is proposed to change the by-laws to provide for a chairman of the board, who shall be the chief executive officer of the company, and a vice chairman of the board who shall perform the duties of the chairman in his absence. If the shareholders approve of the change, it is proposed to appoint George P. Whaley, now a director and president of the company, to the office of chairman, Herbert Baker, now a director, vice president and treasurer, to the office of vice chairman, and Charles E. Arnott, now a director and vice president, to the office of president.

The by-laws now provide there shall be eight directors. An increase in the number is desirable, due to the growth of the business of the company, and it is proposed to change the by-laws to provide for a minimum of 7 and a maximum of 15 directors. If the shareholders approve of this change, it is proposed that the number of directors be fixed at 11, to hold office until the next meeting of the shareholders. The additional directors who will be chosen are men now in leading positions in the company's employ who by experience and ability are eminently fitted for this new relation.

British American Oil

J. C. Millar, treasurer of British American Oil Co., Ltd., in a statement accompanying dividend and bonus checks, says the company in 1929 experienced a prosperous year, as will be more fully revealed when records are complete and the annual statement distributed at the annual meeting. Mr. Millar says directors will give further consideration to stockholders at annual meeting in February.

Skelly Oil

Skelly Oil Co. declared regular quarterly dividend of 50 cents, payable March 15 to stock of record Feb. 14.

Union Oil

Union Oil Co. of California declared the regular quarterly dividends of 1% in stock and 50 cents cash, both payable February 10 to stock of record January 17. On October 7, 1929, company initiated quarterly stock dividends of 1% in addition to the cash payments.

Barnsdall Corp.

Barnsdall Corp. declared the regular quarterly dividend of 50 cents on the A and B stock, payable February 7 to stock of record January 15.

Empire Gas & Fuel

Empire Gas & Fuel declared regular monthly dividends of 50 cents on 6% preferred, 54 1-6 cents on 6½% preferred, 58 1-3 cents on 7% preferred and 66 2-3 cents on 8% preferred, all payable February 1 to stock of record January 15.

Tide Water Associated

The major portion of the 1,617,475 shares of additional Tide Water Associated Oil common stock, for which application to list has been made to the New York Stock Exchange, is to provide for the exchange of stocks for Associated Oil Co. and Tide Water Oil Co. common stock. Tide Water Associated already owns more than 95% of the common stock of each of these companies. It is offering to exchange three of its common shares for one of Associated Oil and 1¾ shares for one share of Tide Water Oil Co. The balance of the stock applied to list is to be used for a new employe stock ownership plan.

Shell Transport Trading

Equitable Trust Co. of New York, as depository of certain ordinary shares of Shell Transport Trading Co. Ltd., has received a dividend of 2 shillings per ordinary share of £1 par value. The equivalent on each American share is 97 cents. The dividend is payable January 28 to stock of record January 15.

Lone Star Gas Preferred

Lone Star Gas Co. has declared initial quarterly dividend of $1.63 on the new $6.50 preferred stock, payable February 1 to stock of record January 20.

Shell Union Oil

Additional 2,583,334 shares of no par common stock which Shell Union Oil Corp. has applied to New York Stock Exchange for listing are to be used in connection with the 5 per cent sinking fund debentures and the 5½ per cent preferred stock.

The preferred stock, amounting to $40,000,000, is convertible into the common on or before July 1, 1932, at $30 a share, and after that date and on or

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of New York Stock Exchange, Kennedy Building, Tulsa, Okla.

1929 High	1929 Low	Week ended January 8 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low
42⅝	17½	400	21⅜	21	21⅜	Amerada Corp.	(sh)	922,075	N.P.	50cQ	1-31-30	32⅞	24¼	37⅝	27⅝	43⅞	27⅛
64¾	12½	300	23	23	23	American Republics Corp.	(sh)	209,180	N.P.	.....	3-20-29	74	39⅞	82⅛	35⅛	85	51⅛
47¼	33½	70	37	37	37	Associated Oil		$57,260,300	$25	50cQ	12-31-29	60	44¾	50¼	35	53⅜	37½
77⅞	30	1,800	38½	37⅝	37¾	Atlantic Refining		$50,000,000	$25	25cQ	12-16-29	128⅜	97	131⅜	104	66⅜	50
49⅛	20	1,900	23½	23¼	23¼	Barnsdall Corp.		$45,235,650	$25	50cQ	12- 7-29	33½	23½	35½	20¾	53	20
47⅛	18	2,900	23	22¾	22¾	Continental Oil of Delaware	(sh)	4,741,554	N.P.	.....	3-31-27	..	..	..	..	..	..
94¾	42¼	100	50⅛	50⅛	50⅛	General Asphalt		$20,785,400	N.P.	50cQ	.....	94½	50	96¾	65	94⅞	68
109	26	600	55	53⅝	54⅞	Houston Oil		$25,000,000	$100	.....	.....	72	50¼	175¾	60⅛	167	79
39⅜	17¾	200	23¼	23¼	23¼	Independent Oil & Gas	(sh)	1,333,572	N.P.	50cQ	1-31-30	84	19⅝	32¾	17⅝	38⅜	21¾
53	13⅛	10,200	20¾	18⅛	20½	Indian Refining		$12,307,370	$10	.....	5-31-24	12¾	7½	12⅛	7⅝	39⅝	9
38⅜	16½	No sales.				Lago Oil & Transport	(sh)	3,992,122	N.P.	.....	5- 1-27	25⅞	16½	37¾	20½	39⅛	27⅜
18	7	1,400	9¼	9	9	Louisiana Oil Refining	(sh)	1,190,063	N.P.	.....	.....	19⅞	12	18⅛	10	19¾	9⅜
18½	6½	No sales.				Maracaibo Oil	(sh)	330,000	N.P.	.....	.....	28	16½	22¾	12	25½	12½
69⅜	9¼	2,250	17¾	17⅛	17½	Mexican Seaboard	(sh)	1,276,873	N.P.	.....	12-15-20	13¾	6	9¼	3	73	4⅝
39⅞	22⅛	800	27	26⅞	27	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	50cQ	12-15-29	37	20½	39⅜	25½	44½	25⅛
5⅛	¾	No sales.				Middle States Oil		$24,298,850	$10	.....	7- 1-23	2½	½	3¾	1⅝	7⅜	2⅜
69	40½	No sales.				Pan American P. & T.		$50,084,700	$50	.....	10-20-27	76½	56⅛	65⅞	40⅛	54⅞	38¼
69¼	40½	2,300	60¼	59½	60	Pan American P. & T. "B"		$121,105,050	$50	.....	11-15-24	78⅜	56⅞	66⅜	40¼	58⅞	37¾
18½	13⅜	No sales.				Pan American Western "B"	(sh)	400,000	N.P.	.....	1-30-27	46	30	37⅞	16¾	28⅜	15½
15¼	3	200	5⅛	5⅛	5⅛	Panhandle P. & R.	(sh)	199,370	N.P.	.....	.....	32	4½	18⅞	8	21¾	11½
76	47½	No sales.				Panhandle P. & R. pfd.		$2,564,400	$100	.....	7- 2-23	99⅜	51	83	54	108	70
47	24¼	1,300	34⅜	33½	34	Phillips Petroleum	(sh)	2,406,796	N.P.	50cQ	1- 2-30	57⅜	40	60¼	36¼	53⅞	35¼
3⅜	1	500	1¼	1⅛	1¼	Pierce Oil Corp.		$29,622,831	$25	.....	.....	..	..	1⅛	½	5¼	⅛
5⅞	½	No sales.				Pierce Petroleum	(sh)	2,500,000	N.P.	.....	.....	7	2¼	5½	2½	7	3½
65⅝	40½	880	51½	51¼	51¼	Prairie Oil & Gas		$61,720,125	$25	50cQ*	12-31-29	60¼	48	55½	45⅝	68	46
65	45	200	59⅜	59⅛	59⅛	Prairie Pipe Line		$101,250,000	$25	75cQ†	12-31-29	187½	122½	190	130¾	280	172
25⅞	4	400	9½	9½	9½	Producers & Refiners		$37,438,950	$50	.....	9-15-23	20¾	11	33⅞	16¾	29⅞	16
46¾	25½	No sales.				Producers & Refiners pfd.		$2,845,350	$50	.....	5- 1-25	41¾	30¾	50	36⅞	49⅝	41
30¾	20	2,500	24	23½	24	Pure Oil		$75,959,250	$25	37½cQ	12- 2-29	31	25¼	33½	25	31⅝	19
49⅝	20	2,600	24⅝	24⅛	24⅛	Richfield Oil		$47,964,650	$25	50cQ	11-15-29	27½	22	28⅝	25⅜	56	23
42½	15	800	19⅜	19¼	19⅜	Rio Grande Oil	(sh)	1,200,000	N.P.	$2.00A	7-25-29	..	..	..	..	37½	32
64	43⅛	2,400	53⅞	53½	53⅝	Royal Dutch, N. Y.	(sh)	611,303	$1.873	.....	9-13-29	57⅜	47⅝	54½	44¼	64	44⅝
55	43⅜	No sales.				Shell Transport & Trad.		£19,654,274	£1	$1.45	7-23-29	48⅝	40½	47⅞	41⅜	57½	40⅝
31¾	19	700	23⅜	23	23⅜	Shell Union Oil	(sh)	13,000,000	N.P.	35cQ	12-31-29	31	24	31¾	24⅝	39¼	23¼
40⅛	15	No sales.				Simms Petroleum		$8,060,380	$10	40cQ	12-14-29	25⅞	15⅛	25⅜	14¼	27¼	18⅛
45	21	3,600	24¼	24	24	Sinclair Consolidated	(sh)	5,500,000	N.P.	50cQ	1-15-30	24⅞	15¾	22⅝	15	46¾	17⅜
111	103	No sales.				Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	11-15-29	99½	90	104½	97	110	102½
46½	28	500	31	30⅝	30⅝	Skelly Oil		$27,237,750	$25	50cQ	12-16-29	37⅛	26⅝	37⅜	24⅛	42⅝	25
81⅞	51½	1,300	60⅞	60¾	60¾	Standard Oil of Cal.	(sh)	12,594,098	N.P.	62½cQ	12-16-29	63⅝	51½	60¾	50⅜	80	53
83	48	8,300	65⅛	64¼	64¼	Standard Oil of N. J.		$620,079,800	$25	25cQ*	12-16-29	46⅜	37½	41⅜	35⅛	59⅜	37¾
48⅛	31¾	3,800	33	32½	32½	Standard Oil of N. Y.		$434,094,575	$25	40cQ	12-16-29	47¼	30⅜	34⅛	29¾	44¼	28¾
86⅜	55	300	59⅜	58	59⅜	Sun Oil	(sh)	1,297,627	N.P.	25cQ	12-16-29	41¾	30⅛	34⅞	30	77	31½
24	5¼	800	6⅜	6⅜	6⅜	Superior Oil Corp.	(sh)	2,324,938	N.P.	.....	12-20-20	..	..	..	..	..	..
71⅞	50	No sales.				The Texas Corporation		$211,076,650	$25	75cQ	1- 1-30	58	48	58	45	74¾	50
23⅞	9½	No sales.				Texas Pacific Coal & Oil Co.		$8,380,340	$10	2½%A‡	12-31-29	19½	12	18⅞	12	26⅝	12⅛
40	14	No sales.				Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	12-31-29	39¼	27	29⅛	19	41½	19⅝
97½	85⅛	200	87¾	87¾	87¾	Tide Water Oil 5½% pfd.		$20,705,200	$100	$1.25Q	11-15-29	103	87¼	90⅛	85	100⅛	86
23½	10	2,000	12⅞	12½	12⅞	Tide Water Associated	(sh)	4,796,158	N.P.	30cS	2-15-30	27	20⅞	19⅛	15¾	25	14¾
90⅞	74⅛	200	84	84	84	Tide Water Associated pfd.		$72,844,300	...	$1.50Q	2- 2-30	..	..	..	..	..	..
15¼	5⅛	12,300	9¼	9	9¼	Transcontinental Oil	(sh)	3,742,029	N.P.	.....	.....	5½	3	10⅜	3¾	14¾	7¼
57	42⅛	No sales.				Union Oil of California		$94,798,100	$25	50cQ	11- 9-29	58⅜	37¼	56½	39⅝	58	42⅜
163¾	121⅞	No sales.				Union Tank Car		$31,061,200	$100	$1.25Q	12- 2-29	120⅜	84¼	127½	94	128⅛	110
42⅞	15	800	20	19⅜	19¾	Warner-Quinlan	(sh)	356,000	N.P.	50cQ	1- 2-30	30⅛	23½	34½	24½	44⅞	26
38	25	400	27¼	26¾	26¾	White Eagle Oil & Refining	(sh)	490,000	N.P.	50cQ	1-20-30	29¾	25⅛	27½	20	38	20⅛
29¾	12⅞	No sales.				Wilcox Oil & Gas	(sh)	2,400,000	N.P.	.....	5-10-28	..	..	..	..	..	.

*Plus extra dividend of 25 cents †Plus extra dividend of 50 cents. ‡Payable in stock. x Ex-dividend.

before July 1, 1935, at the rate of $35 a share. To provide for the former rate of conversion, 1,333,334 shares of the common stock are required.

Warrants attached to the $50,000,000 issue of 5 per cent debentures, due 1949, permit the purchase on or before October 1, 1939, of 25 shares of common stock at $35 a share for each $1,000 of debentures. Thus a total of 1,250,000 shares of common stock is required to meet this provision.

Pacific Oil

With final settlement on federal income tax having been effected, dissolution of Pacific Oil Co. in the near future by means of a receivership is planned. The company states that as soon as the necessary legal processes have been complied with the remaining assets will be distributed in cash by the receiver to stockholders of record.

Standard of Kansas

The balance sheet of the Standard Oil Co. of Kansas on December 31, 1929, showed: Current assets — Cash, $123,759.96; demand loans, $800,000; U. S. government bonds, $2,571,531.26; other investments, $232,200; accounts receivable, $564,270.25. Inventories—Crude oil and refined products, $1,780,991.25 (at cost less than market); material and supplies, $278,066.34. Fixed (capital) assets—Properties, plant and equipment, $6,742,224.46; less reserve for depreciation, $3,000,009.58. Total assets, $10,093,033.94.

Current Liabilities—Accounts payable, $600,324.72; reserve for taxes, $118,389.89; common capital stock, $8,000,000. Surplus—Balance December 31, 1928, $101,407.24; earnings year 1929, $1,512,912.09; less $240,000 dividends paid 1929, $1,374,319.33.

The income account shows: Gross earned income, $3,144,650.87; operating costs and general expenses, $1,212,886.55, taxes, $76,158.07; net earnings before depreciation, and income tax, $1,855,606.25; depreciation reserve, $224,304.27, federal income taxes, $118,289.89; net profit, $1,512,912.09.

Standard Management Operating

The Stadnard Oil Co. of California has formed the Standard Management Operating Corp. for the purpose of handling its electric, gas, cold storage and similar companies.

Venezuela Syndicate

The name of the Venezuela Maxudian Oil Co. has been changed to Venezuela Syndicate, Inc., and the authorized number of shares was changed to 2,00,000 of $2 par value each.

Cosden Oil

Cosden Oil Co. declared the regular semiannual preferred dividend of $3.40 a share, payable February 1 to stock of record January 15.

Universal Consolidated

The board of directors of Universal Consolidated Oil Co. has placed the new $10 per capita stock of the company on a $2 annual dividend basis. An initial quarterly dividend of 50 cents a share was declared payable January 10 to stock of record December 31.

H. F. Wilcox Co.

The H. F. Wilcox Oil & Gas Co. of Tulsa has completed its first employes'

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Members of New York Curb Market, Kennedy Building, Tulsa, Okla.

1929 High	1929 Low	Week ended January 8 Sales	High	Low	Close	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low
72c	⅛	No sales.				Amer. Con. Oilfields	$11,018.000	$5	.....	.....	$6.75	.45	2 1/16	.55	1½	.53
8⅝	1⅛	No sales.				Amer. Maracaibo	700.000	N.P.	.....	.....	..	..	7½	2¾	9½	3⅛
5	1½	No sales.				Argo Oil	683.971	$10	.....	.....	..	..	2¾	1	4½	2¼
62	7⅞	No sales.				British-American	1,311,321	N.P.	25cQ*	1- 2-30	85¼	60	40	20½	55	32¾
4⅞	1	1,300	1	1	1	Carib. Syndicate	$131.250	25c	.....	.....	28⅜	9¼	28¼	15½	4½	3⅞
68⅛	20	15,400	28⅝	28	28½	Cities Service	24,290,359	N.P.	30cA†	1-2-30	..	..	58¾	40¼	90⅞	54
98¾	84	200	88¼	88⅛	88¼	Cities Service pfd.	1,500,000	N.P.	50cM	1- 2-30	..	..	95⅜	87	103½	94½
2	¼	900	⅝	1/16	⅝	Colombia Syndicate	$2.000.000	$1	.....	.....	3½	1¾	3⅞	1⅛	3¼	.76
11⅛	2½	No sales.				Cons. Royalty	$5,000,000	$10	15cQ	10-25-29	..	..	9¾	6⅜	8⅞	6¼
11¾	5⅝	1,300	6¼	6¼	6¼	Creole Petroleum	5,977.873	N.P.	.....	.....	16	10	14⅞	9½	17½	9½
2½	¼	No sales.				Crown Central	578.000	N.P.	.....	.....	..	..	3	.50	3¼	.76
26	6½	200	8½	8½	8½	Darby Petroleum	1,019,392	N.P.	25cQ	1-15-30	7⅞	6¾	12	4	33½	8¾
11	2	No sales.				Derby Oil & Refining	500.000	N.P.	.....	.....	..	..	2½	74	2¼	1
44	20¾	No sales.				Derby Oil & Refining pfd.	48.500	N.P.	.....	.....	..	..	16¾	4	21⅛	7½
209	115	300	138	137⅛	137⅞	Gulf Oil Corp.	4,504,921	$25	37½cQ	1-1-30	98	92	118	86¼	165	101⅛
2⅞	⅜	2,400	1	1	1	Intercontinental Pet.	$5,682,000	$5	.....	.....	$3.00	.83	2½	.80	3⅜	1
3⅝	1¼	1,700	2½	2⅛	2¼	Kirby Petroleum	750.000	N.P.	.....	.....	..	..	2¼	1⅛	3	1¼
6¼	1	100	1⅜	1⅜	1⅜	Leonard Oil & Dev.	$50.000.000	$25	.....	.....	12¼	5¾	10⅞	5⅛	9⅜	5⅛
38⅞	18	400	20	20	20	Lion Oil & Refining	250,000	N.P.	50cQ	1-31-30	27	20	27½	20	43⅞	20
67⅞	28	600	37	35	35	Lone Star Gas	5,000,000	N.P.	20cQ	12-31-29	46	30	59⅜	37	69⅛	48½
1¼	¼	No sales.				Magdalena Syndicate	850,000	$1	.....	.....	2⅞	1	2⅞	.80	1⅞	.50
38½	14	100	15	15	15	Margay Oil	160,000	N.P.	50cQ	1-10-30	84	12½	52	12	48½	32
6⅜	2¼	500	2¼	2¼	2¼	Mexico-Ohio Oil	.....	...	.....	.....	8	5½	12¼	5	8	2⅜
1½	¼	No sales.				Mountain & Gulf	$4,000,000	$1	2cQ	1-15-30	1¾	1⅛	1½	1	1¾	.76
22⅞	7	600	8¾	8⅛	8¾	Mountain Producers	$1,682,182	$10	40cQ	1- 2-30	26	23	29¼	22¾	28⅞	19½
5	2¼	No sales.				New Bradford Oil	$1,095,291	$5	12½cQ	1-15-30	6⅝	5	5⅞	4⅝	5⅝	4¼
9⅜	2¼	200	3¾	3¾	3¾	New Mex. & Arizona	$1.000.000	$1	.....	.....	..	..	16	9¼	11⅞	7⅛
18½	6⅛	No sales.				North Central Texas	400,000	N.P.	15cQ	12- 2-29	..	..	12¾	9½	14¼	8½
3½	½	1,200	1⅜	1⅛	1⅜	Pandem	489.875	N.P.	.....	.....	10⅛	5⅞	9⅜	3¼	6	2¼
10¼	1⅞	200	3	3	3	Pantapec Oil	1,506.600	N.P.	.....	.....	12¼	11⅜	12⅛	7	15⅝	8½
7¾	4⅜	No sales.				Pennok Oil	150.000	N.P.	.....	.....	22¾	12	13½	5⅛	7¾	4⅞
16	9⅝	No sales.				Red Bank Oil	250.000	N.P.	.....	.....	17	8½	24⅜	7	18	4⅞
8½	1⅛	500	2⅞	2⅞	2⅞	Reiter-Foster	388,584	N.P.	10cQ	12- 2-29	30¼	12	15½	3½	12⅞	4⅛
11	3	1,000	3⅞	3¾	3¾	Ryan Consolidated	500.000	N.P.	.....	.....	7	4½	7	4½	12	4⅛
5⅞	1⅞	No sales.				Salt Creek Consolidated	1,286,300	$10	10cQ	1- 2-30	10	7⅛	8	5¼	7¼	5½
25⅞	9	500	11	11	11	Salt Creek Producers	1,496,859	$10	50cQ	2- 1-30	35	24⅛	35½	27¼	35	23⅛
2½	1/16	No sales.				Savoy Oil	$750.000	$5	.....	.....	6⅞	1¼	7	1¼	3½	1
6½	1¾	100	2⅜	2⅜	2⅜	Venezuelan Petroleum	755,090	$5	5cQ	11-15-29	8	4½	7⅜	4¼	9⅛	4¾
9½	2	No sales.				Woodley Petroleum	$500,000	$1	.....	.....	8⅛	5½	7	4⅜	8¼	4⅞
2⅞	¼	No sales.				"Y" Oil & Gas (new)	100.000	N.P.	.....	.....	6½	6	6	1¾	8⅜	2⅛

*Including one-half per cent monthly in stock. x Ex-dividend. †Payable monthly and a monthly stock dividend of one-half per cent.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Members of New York Curb Market, Kennedy Building, Tulsa, Okla.

1929 High	1929 Low	Week ended January 8 Sales	High	Low	Close	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low
17	11	8,200	17⅛	17	17⅛	Anglo-American Oil (nv)	£4,192,635	£1	.36⅛	11-27-29	21	16	21⅝	17⅛	22⅝	14⅞
46½	25	No sales.				Borne Scrymser	$1.000.000	$25	$1S.A.	10-15-29	76	65	69	50	56½	44½
74¼	55	100	68⅛	68⅛	68⅛	Buckeye Pipe Line	$10,000,000	$50	$1Q	12-14-29	59½	42	60	45	76	53
210	130	No sales.				Chesebrough Mfg.	$3,000,000	$25	$1Q*	12-30-29	82½	65	126	76½	161	117
29	10	No sales.				Continental Oil	$36.057.840	$10	.....	12-15-27	25⅞	17½	22⅝	16¼	22	16
75¾	40	No sales.				Cumberland Pipe Line	$1,500,000	$50	$1Q	12-15-29	137	102	137	89	114	67
70½	42	No sales.				Eureka Pipe Line	$5,000.000	$100	$1Q	11- 1-29	63¾	43	68½	47	88	64⅛
6½	3	No sales.				Galena Signal Oil	$16,000,000	$100	.....	.....	32½	9⅞	13½	3½	13	4¼
128	74⅛	No sales.				Humble Oil & Refining	$74,103,300	$25	50cQ	1- 1-30	68½	52	68½	54	114¾	59¼
340½	260	2,000	306¼	306¼	306¼	Illinois Pipe Line	$20,000,000	$100	$10S.A.	12-16-29	144½	125½	182	123¾	290½	176½
41	22	300	26⅝	26½	26½	Imperial Oil Co., Ltd.	26,421,768	N.P.	12½cQ	12- 2-29	..	..	64¾	37¾	104	56¾
41⅞	26	No sales.				Indiana Pipe Line	$3,000,000	$10	50cQ‡	2-15-30	72½	58	94½	61	91⅞	74⅝
30⅜	15	2,700	21⅜	20¾	21¼	International Pet.	14,247,088	N.P.	12½cQ	12-16-29	35½	28¾	29	28¼	55	35
25⅛	10½	No sales.				National Transit	$6,362,500	$12.50	25cQ‡	12-16-29	20¾	12½	24	13½	32⅜	19⅜
17½	10	No sales.				New York Transit	$1,000,000	$10	40cQ§	1-15-30	51½	27¼	44½	31¼	75	38½
63	41	No sales.				Northern Pipe Line	$2,000,000	$50	$2S.A.	1- 2-30	80½	64	100	70	69	56½
79⅞	64⅛	200	71	71	71	Ohio Oil	$60,000,000	$25	50cQ‡	12-14-29	67¾	55¾	67⅞	52	84	58½
44½	18⅝	100	20	20	20	Penn Mex. Fuel	$10,000,000	$25	50cQ	12-14-29	24¾	15	39	12	84	28
50	29	No sales.				Solar Refining	$4,000,000	$25	$1.25S.A.	12-20-29	..	..	..	..	..	..
22½	13	No sales.				Southern Pipe Line	$1.000.000	$10	50cQ	.....	74½	61½	27¼	15½	19	15
60¼	35⅛	No sales.				South Penn Oil (new)	$30,000,000	$25	50cQ	12-30-29	50	34½	41¼	35	71⅞	36¾
70	60	No sales.				Southwest Pa. Pipe Lines	$1.750.000	$50	$1Q	10- 1-29	56	47½	83	55½	102	70
63	45	5,100	54	53⅝	53¾	Standard Oil of Indiana	$348,175,069	$25	62½cQ‡	12-16-29	70½	60½	81½	64⅝	95⅞	70⅞
33¾	18	1,300	29⅞	29¼	29½	Standard Oil of Kansas	$8.000,000	$25	50cQ	12-16-29	36½	16½	20⅞	14⅝	37¾	15
46⅞	29	700	34⅞	34⅜	34⅝	Standard Oil of Kentucky	$25,654,516	$10	40cQ	12-16-29	134⅜	108	130	111½	179¾	122¼
50¼	40	200	45¼	45¼	45¼	Standard Oil of Nebraska	$4,649,225	$25	62½cQ‡	12-20-29	51⅛	42	49½	40	54⅞	39⅞
129	60	No sales.				Standard Oil of Ohio	$14,000,000	$25	62½cQ	1- 2-30	372	288	87½	72	134	71
18	10	No sales.				Swan-Finch Co.	$861,466	$25	.....	12- 2-29	21	15	21	14½	23½	16
133¾	75	300	95½	95½	95½	Vacuum Oil Co.	$126,180,350	$25	$1Q	12-20-29	109⅝	90¼	..	..	111	72

*Plus 50 cents extra. ‡Plus 25 cents extra. §Plus 10 cents extra. x Ex-dividend.

stock purchase plan, of which H. F. Wilcox, president and general manager of the company, says:

"We studied the employe's stock purchase plan of railroads, mills, steel companies and other oil companies, taking the best of all of them and working it into a plan that suited our concern. We expected a 40 to 50 per cent acceptance of the plan from the employes of the company, but were surprised with a 94 per cent indorsement of it."

Three trustees have been named by the directors of the Wilcox company to manage the employes' stock purchase plan: Mr. Wilcox, M. P. Appleby and W. J. Vaught.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

July 19	56.83	Oct. 19	58.70
July 26	55.62	Oct. 26	54.59
Aug. 3	55.09	Oct. 31	42.29
Aug. 10	54.15	Nov. 8	48.31
Aug. 17	60.32	Nov. 15	47.61
Aug. 24	60.61	Nov. 22	47.76
Aug. 31	60.90	Nov. 29	43.60
Sept. 7	59.16	Dec. 4	50.60
Sept. 14	60.40	Dec. 11	50.51
Sept. 21	57.93	Dec. 18	49.24
Sept. 28	58.63	Dec. 24	47.76
Oct. 5	57.00	Dec. 31	48.69
Oct. 12	59.75	Jan. 8	48.56

EASTERN GASOLINE MARKET STILL WEAK

(Continued from Page 127)

daily in the preceding week. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast Ports—	
Baltimore	87,000
Boston	71,000
New York	766,000
Philadelphia	189,000
Others	133,000
Total	1,226,000
Daily average	175,143
At Gulf Coast Ports—	
Galveston district	67,000
New Orleans and Baton Rouge	145,000
Total	212,000
Daily average	30,286
At all United States Ports—	
Total	1,438,000
Daily average	205,429

Paraffin Wax

Inquiry for fully refined grades has shown a little improvement during the week, but the market tone is still easy and the volume of actual business passing is rather light. Spot 120-122 a.m.p. is offered out of Bayonne at 3¾ cents per pound, off an eighth, with 125-127 a.m.p. showing a corresponding reduction to 3⅞ cents per pound. Some business is reported to have gone through on 135-137 a.m.p. at 5⅞ cents, a reduction of an eighth cent from the previous basis.

Domestic consumers are inquiring for stocks in fair volume, and an early gain in sales is looked for. Much the same condition obtains with respect to the export branch of the market.

The statistical position of the market is still unfavorable, from the standpoint of stocks. Holdings as of November 30 amounted to 185,559,000 pounds, a decline from the 189,094,000 pounds on hand at the close of the previous week, but substantially higher than stocks of 103,949,000 pounds on hand November 30,1928. Exports for November were but 26,685,000 pounds, against 39,037,000 pounds during October.

Petrolatum

A steady tone features the market for petrolatum as the new year gets under way and spot quotations remain unaltered. Refiners have booked a satisfactory amount of business with domestic consumers for delivery over the first quarter and a good volume of export sales is also reported for this period.

Pharmaceutical consumption of the white grades has shown a steady increase during the past year, and the trade is looking for further gains in this direction during 1930. Foreign consumers have also been increasing their consumption of both snow white and lily white during recent months.

California Oil Receipts

Receipts of California crude and refined oils at Atlantic and Gulf ports for the week ended January 4 totaled 256,000 bbls., a daily average of 36,571 bbls., against 599,000 bbls., a daily average of 85,571 bbls. for the previous week. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast Ports—	
New York	256,000
Daily average	36,571

There were no receipts at Gulf Coast ports for the week.

Distribution of total California oil receipts at East Coast ports is as follows:

Gasoline	83,000
Kerosene	95,000
Gas oil	78,000

ROCKY MOUNTAIN AREA

(Continued from Page 62)

hole has been reduced with the 4¾-inch casing at 4,280 feet. The Midwest Refining Co.'s No. 24 Hannewalt, SE SE, Section 4-6n-92, Bell Rock Structure, is drilling at 165 feet in brown shale.

In Rio Blanco County in western Colorado, the Texas Production Co.'s No. 1 Potter, C NE SW, Section 30-2n-96, White River Dome, is bottomed at 5,620 feet in the Laramie formation. The 5¾-inch was cemented at 5,335 feet and a test will be made of a show of gas in sand at 5,544-64 feet after which the hole will be drilled deeper. The water had been bailed down to 4,500 feet at last reports. The White Eagle Oil & Refining Co.'s Piceance Creek test in the NW SW Section 9-2s-96, shows no change from last week, underreaming to lower the 8¼-inch to reduce the gas pressure still being in progress. Total depth is 2,880 feet.

On Archuleta County, the Standard Oil Co. of Colorado's No. 1 Fitzhugh, NE NW SW, Section 34-33-1e, Chromo Dome, is building rig.

The Parker Club, Inc., No. 1 Fee, Section 4-28-68, Huerfano County, drilled 1 foot deeper to 3,924 feet, when at had to shut down on account of sickness in the crew, bad weather and frozen water lines. The last drilling was in a dry hole and a few feet are expected to put it into the Muddy sand.

The Argo Oil Co.'s No. 1 Peerless, NE, cor. Section 23-8s-104, High Line structure, Mesa County, succeeded in getting the 8¼-inch out of the hole and is rerunning it and will underream from 300 feet off bottom. Total depth is 2,712 feet.

In Fremont County, the Continental Oil Co.'s No. 1 Giovanni, SW NW, Section 1-19-70, Canon City district, was dry and abandoned at 2,750 feet.

The Continental Oil Co.'s No. 1 Pipe Springs, NE, cor. SE, Section 27-27-49, Bent County, is drilling at 5,380 feet in dark shale still believed to be the Pennsylvanian.

In Las Animas County, the Trinidad Development Co.'s No. 1 Flonz, NE SW, Section 23-32-63, is bottomed at 2,700 feet and running 5-$\frac{3}{16}$inch. It will go to 3,000 feet which probably will put it into the red beds. The Helium Co.'s No. 1 Hall, NW SE SW, Section 19-27-59, Delhi Dome, is shut down for orders at 935 feet. It topped a water sand at 923 feet.

In Yuma County, near the Kansas line, the Phillips Petroleum Co.'s No. 1 Andrews, NW NW, Section 3-2s-42, is drilling in blue lime at 4,610 feet.

M. T. Smith & Sons' No. 1 Middlemist, SW SE, Section 14-4s-56, Washington County, is shut down at 1,030 feet (cor.) with the 15½-inch on bottom.

J. M. Botts' No. 1 Buick, SE cor., Section 1-8s-59, Elbert County, is still trying to get the casing which dropped nearly a year ago. Depth is supposed to be around 3,600 feet.

MONTANA

In the Pondera Field, Pondera County, the Fulton Petroleum Co. completed its No. 1 on the Jones lease, Section 17-27-4, and it looks like 150 bbls. It swabbed 80 bbls. in 12 hours. This is the first completion in Montana since the recent blizzard.

The Vanalta Field that lies across the Canadian border is the center of the oil operators' interest at this time, the Vanalta discovery well on the Canadian side producing and three wells on the Montana side of the line nearing the pay. The Mid-Continent Oil Co.'s well is drilling again after the shut down due to weather and the hole is at 2,350 feet with a completion expected next week. The Cosmos Petroleum Co.'s well in the same field is down 2,300 feet and has a small fishing job that is holding it up for a while. The third well drilling on the Montana side is at 2,300 feet and is being drilled by the Monalta Oil Co. The completion of either one of the three wells as a producer will start a drilling campaign in that area as many leaseowners are simply holding off to see what these three wells prove when they reach the sand. The McDonald test pulled in the rig last week and this will slow up this well. It was at 2,250 feet.

The Carter Oil Co. on the Six Shooter anticline, Stillwater County, has plugged back the first well instead of abandoning it and will save the gas found at 3,100 feet for fuel for further drilling. This well went to 4,375 feet and found the sand dry there.

In northern Valley County, near Opheim, contractors are moving the Jones rig and equipment to a location near that town. This equipment will drill a wildcat on the Opheim Dome for gas to supply the nearby towns.

The gas rate meeting, that was to have been held at Havre, was postponed at the request of the Dakota-Montana Power Co. until January 14. The citizens of Havre would like to have natural gas and the Dakota-Montana company wishes to serve the city, but an agreement as to the rate to be charged is needed before the company will start work.

Production

Daily average production for week ending January 11:

IDAHO

The California Co.'s No. 1 Sorensen, Section 33-3n-41, Meadow Creek, Bonneville County, Idaho, is drilling at 3,697 feet and the Monida Oil Co.'s No. 1 Rose, NE, Section 32-14-36, Clark County, is running 15½-inch casing at a total depth of 810 feet. The Grand Teton Oil Co.'s No. 1 Blevins, SW, Section 33-5n-44, Teton County, is shut down at 1,900 feet repairing bull wheel, and its No. 1 Bevan, SE, Section 28-5n-44, is shut down for repairs at 1,376 feet.

WYOMING	
Salt Creek	27,310
Frannie	970
Big Muddy	2,030
Oregon Basin	4,220
Dutton	40
Elk Basin	810
Ferris	60
Grass Creek	2,030
Hamilton	860
LaBarge	1,870
Lance Creek	220
Lost Soldier	3,310
Osage	730
Poison Spider	930
Rock River	2,270
Rex Lake	100
Lander	480
Simpson Ridge	40
Teapot Dome	30
Total	48,430
MONTANA	
Cat Creek	1,210
Kevin-Sunburst	6,520
Pondera	1,960
Lake Basin	80
Total	9,770
COLORADO	
Moffat	1,029
Fort Collins	1,892
Florence	484
Iles	918
Tow Creek	568
Boulder	25
Rangley	100
Total	5,016
NEW MEXICO	
Artesia	651
Cap Rock (Maljamar)	911
Hogback	410
Rattlesnake	838
Table Mesa	114
Jal	1,182
Hobbs High	55
Getty	797
Lea	4,652
Miscellaneous	655
Total	10,265
Grand total	73,481

GASOLINE MOVEMENT IN CHICAGO LIGHT

(Continued from Page 126)

being rapidly adjusted on some basis but there is more fuel oil available here now than there is a place to put it. Refinery prices are being held and the cuts are on this supply of excess oil.

Lubs Quiet

The market for refinery lubricating stocks is quiet. Some of the buyers claim they have been able to make contracts for their needs of bright stocks for 1930, at prices below the minimum of 33 cents which has been the low price of the contracts offered by many refiners. There has been some sort of weakening according to buyers, possibly because the majority were slow to take on contracts for their full requirements at the offered prices and terms. The market may develop something of interest to buyer or seller in the near future but right now there is a conflict of claims both as to the prices at which bright stocks may be bought and the supplies that will be available. Regarding the latter, some refiners are named who are stated to have greatly increased their capacity to run a high character of material.

No change has been made in the tank wagon scale over the territory and there is no intimation obtainable that any such change is contemplated. The gallonage is greatly slowed down by bad roads. There have been no developments of important price cutting and the whole situation is practically unchanged.

DISCUSS CODE ON COMMERCIAL ACCOUNTS

(Continued from Page 40)

tute's executive officers acting for the board of directors.

Section 2—Membership

Any member of the institute in good standing may enroll as a member of one or more of the three authorized divisions upon application to the secretary of the institute and upon the payment of a fee for each calendar year of $2 for each division. The divisional membership fees shall become due on January 1 of each year.

Any member of a division who is dropped from the membership roll of the institute shall automatically be removed from the membership roll of the division.

A member of a division who is in arrears in the payment of his annual divisional fee for more than six months shall be dropped from the divisional membership rolls.

A member of a division may be suspended or expelled for cause by the unanimous action of the members of the general committee.

Provision shall be made for associate memberships, without voting privileges, in each division for individuals who are not members of the institute. Employes of federal, state or municipal governments, teachers in colleges or schools, and others not identified directly with or engaged in the petroleum industry may, with the approval of the general committee, enroll as members of a division upon the payment of a fee of $5 for each calendar year.

Section 3—Organization

General Committee—The detailed activities of each division shall be conducted under the direction of a general committee, composed of 25 members, each actively engaged in the branch of the industry represented by the particular division. Five members of the general committee must be members of the board of directors and shall be appointed annually by the president of the institute following each annual meeting. The other 20 members shall be elected annually by the enrolled members of the division at a meeting, of which all members of the division shall be notified in advance, at the time and place of each annual meeting of the institute. Sixty days prior to the meeting at which the 20 members are to be elected, the chairman of the general committee shall appoint a nominating committee of 15 and the members of the division shall be requested to make their suggestions to this committee in advance of the meeting. The nominating committee shall meet at the time and place of the annual meeting and make its report to the meeting of members. No other nominations shall be presented to the meeting of the members unless concurred in by at least 15 enrolled members of the division. The term of office of each

member of the general committee shall begin and end with the calendar year. Ten members of the general committee shall constitute a quorum.

Officers—Each general committee shall have a chairman, a vice chairman and a secretary. The vice president of the institute for production shall be, ex officio, chairman of the general committee of the Division of Production; the vice president for refining shall be, ex officio, chairman of the general committee of the Division of Refining, and the vice president for marketing shall be, ex officio, chairman of the general committee of the Division of Marketing. The executive vice president of the institute shall be, ex officio, vice chairman of the general committee for each division. The secretarial duties for each division shall be performed by that member of the staff of the institute who may be from time to time designated by the executive vice president.

Operating Committee—A general committee may create an operating committee of seven members, including the chairman and vice chairman of the committee. In the absence of action by the general committee, the operating committee may exercise all the powers of the general committee; provided that no recommendation or report shall be made to the board of directors of the institute on behalf of a division, unless concurred in by a majority of the members of the general committee.

Standing and Special Committees—A general committee may create such standing and special committees as may be required to handle those activities of the institute that properly come within the scope of the division. Members of all divisional committees will serve until the following December 31, or until their successors have been designated. The chairman and vice chairman of the division shall be, ex officio, members of all divisional committees.

Sections and Chapters—Sections and chapters of a division may be organized in accordance with the provisions of Section 11, if authorized by the general committee of a division.

Section 4—Headquarters

The headquarters for each division shall be maintained at the general office of the institute, unless otherwise authorized by the board of directors or its executive committee.

Section 5—Meetings

Each division shall hold an annual meeting at the time and place of the regular annual meeting of the institute. If the funds be available and their expenditure be authorized by the constituted authority of the institute, a midyear meeting of each division may be held at a time and place fixed by the general committee of the division.

The programs for divisional meetings during the annual meeting or at midyear meetings shall be prepared under the direction of the general committee of each division in co-operation with and subject to the approval of the executive officers of the institute.

Section 9—Publications

The appropriately edited proceedings of annual and midyear meetings shall be reported and published as official divisional bulletins of the institute and distributed free of charge to the enrolled members of the division.

The general committee of each division may recommend to the executive officers of the institute the publication of special bulletins, reports, etc., for distribution free of charge to members of a division. The proceedings of section and chapter meetings shall not be published and distributed at the expense of the institute.

Section 7—Expenditures

No general, sectional, chapter, committee or other meeting of a division shall have authority to make a commitment for the expenditure of institute funds without first having received authorization from the constituted authority of the institute.

Section 8—Institute Policies

No general, sectional, chapter, committee or other meeting of a division shall be authorized to adopt any resolution or take any action, other than in the form of a recommendation to the institute, with respect to institute or industry policy, or with respect to federal, state or municipal legislation or administration; all such action being expressly reserved to the board of directors. No action taken by any division or any one acting for it shall bind the institute until such action has received the approval of the board of directors, its executive committee or an executive officer of the institute authorized by the board of directors or its executive committee to give approval.

Section 9—Reports and Recommendations

The general committee of each division may, from time to time, make reports and recommendations to the board of directors with respect to conditions within its branch of the industry.

Section 10—Correlating Committee

The president, the three vice presidents who are chairmen of the respective divisions, the executive vice president and the secretaries of the divisions shall constitute a standing committee on coordination of divisional activity and this committee may make recommendations to the board of directors for changes in this uniform plan of divisional organization and procedure.

Section 11

The general committee for a division may formulate supplemental rules not inconsistent with this uniform plan of organization and procedure, which, if approved by the correlating committee, referred to in Section 10, shall be formally declared operative for that division by the executive vice president. So far as practical these rules shall be kept uniform for all divisions.

Directors Present

Directors attending the January meeting, in addition to E. B. Reeser, of Barnsdall, president, and W. R. Boyd, Jr., executive vice president, included the following: Amos L. Beaty, Transcontinental Oil Co., New York; J. S. Carroll, Johns-Manville, Inc., New York; W. N. Davis, Phillips Petroleum Co., Bartlesville, Okla.; Henry M. Dawes, the Pure Oil Co., Chicago; O. D. Donnell, Ohio Oil Co., Findlay, Ohio; L. J. Drake, Union Tank Car Co., Chicago; H. B. Earhart, White Star Refining Co., Detroit; W. S. Farish, Humble Oil & Refining Co., Houston; Wirt Franklin, Wirt Franklin Petroleum Corp., Ardmore, Okla.; C. M. Fuller, Richfield Oil Co. of California, Los Angeles; W. M. Irish, Atlantic Refining Co., Philadelphia; Roy B. Jones, Panhandle Producing & Refining Co., Wichita Falls; C. H. Kountz, Prairie Pipe Line Co., Independence, Kan.; L. L. Marcell, White Eagle Oil & Refining Co., Kansas City; E. W. Marland, Ponca City, Okla.; P. M. Miskell, Empire Refineries, Inc., Tulsa; D. J. Moran, Marland Oil Co., Tulsa; F. B. Parriott, Transcontinental Oil Co., Tulsa; J. Edgar Pew, Sun Oil Co., Dallas; Frank Phillips, Phillips Petroleum Co., Bartlesville; Herbert L. Pratt, Standard Oil Co. of New York, New York; W. G. Skelly, Skelly Oil Co., Tulsa; W. E. Smith, Standard Oil Co. of Kentucky, Louisville; Charles L. Suhr, Pennzoil Co., Oil City; J. C. Van Eck, Shell Union Oil Corp., New York; E. T. Wilson, Continental Oil Co., Denver; H. T. Klein, The Texas Company, New York; E. S. Hall, Standard Oil Co. of New Jersey, New York; E. J. Bullock, Standard Oil Co. of Indiana, Chicago; F. R. Coates, H. L. Doherty & Co., New York; B. H. Stephens, Magnolia Petroleum Co., Dallas.

TRANSPORTATION IN THE GULF COAST AREA

(Continued from Page 41)

the low water stages was at Plaquemines, La., a town about 40 miles distant from the operations. All the material and equipment used in this field during the period of wildcatting was shipped to Plaquemines by rail and then transferred by hand to packet boats, which then carried it to the field to be unloaded on the bayou banks, and from there, in turn, to the well locations by tram road or barge.

With the development of oil at this dome, and the increased drilling work, operators have had to provide a faster, less laborious and more economical way of getting in equipment and supplies. To do this a survey of all the surrounding waterways and railroad points was made and a new route worked out. A freight depot was constructed on the Atchafalaya River bank at a point where the Southern Pacific line between Baton Rouge and Lafayette crosses it. The depot was arranged so that all equipment could be lifted from freight cars by power hoist and set on barges which could be tied up just on the opposite side of the depot in a specially constructed slip in the river. The point where the depot was built is only about 10 miles and being upstream from the field, the barges could be towed easily down the river to the field wharf and unloaded by specially constructed power hoists.

The continued search for new domes is taking costal operators farther and farther into regions of southern Louisiana which will present even greater problems of transportation. Many of these new prospects are waiting for the touch of the bit, merely standing until practical means of access can be devised. Some of the new prospects, such as those in southern Terrebonne Parish, are out in the open waters of the Gulf of Mexico where the long barge hauls and the loading and unloading problems incident to rough water, are the chief handicaps; but many of these prospects are in the remote recesses of uninhabited sections that can be classed neither as open water nor dry land places as these will continue to make transportation the chief problem for oil operators in the Gulf Coast district.

GULF COAST MARKET SHOWS LITTLE CHANGE

HOUSTON, Tex., Jan. 14.—Little change was indicated in Gulf Coast refinery markets at the opening of the week. Pale and red oils continued rather weak, but the fact that prices now are about as low as they can be consistently forced prevented much bearing of the market, which has characterized the Gulf Coast situation recently. Movement of these oils, however, is only fair.

Fuel oil is marking time at levels which have been maintained for several weeks. The failure of buyers to get enthusiastic at the present low prices apparently is not causing sellers to tempt them with still lower quotations. Gas oil is firm and as usual there is little fluctuation in quotations. The gasoline and kerosene situation is unchanged, being guided largely by competition of other areas.

TO OPERATE PLANT APRIL 1

The Allegheny-Arrow Oil Co., which is building a new refinery at Canton, Ohio, expects to have the plant in operation by April 1. The plant will have a crude oil capacity of 1,200 bbls. daily. A Dubbs cracking unit is also being installed.

R. K. Shoolroy is president and general manager of the company. M. S. Beringer has been appointed superintendent of the refinery. The company expects to distribute the refinery gasoline output through its own stations. W. M. Thompson is manager of station sales.

Jones Patent Held Invalid on Process For Gas Lift of Oil

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Jan. 13.—District, Judge Pollock sitting in the District Court for the Western District of Oklahoma, has held that the Jones patent No. 1,102,152, covering a process for pumping oil wells by gas lift of the oil, for separation of the gas from the oil and for a separation of the gasoline vapors from the gas so employed is invalid because a lack of novel result in combination of all elements invalidates a patent.

It was admitted by the plaintiff in its suit for infringement of the patent that all of the elements were old and well known when first employed by the patentee, but the plaintiff claimed that a patent on the combination of the elements was valid.

The court held that the three old results accomplished by the process do not aid each other in producing a new and useful result and therefore that the process was a mere aggregation and not patentable.

This was the case of the Jones-McLaughlin, Inc., against Amerada Petroleum Corp.

Bayou Bouillon Field, St. Martin Parish, Louisiana.

RECORD ON CARBON BLACK

The very great expansion of the carbon black industry in the first half of 1929 and the falling off in the rubber business in the last half has caused a serious condition of overproduction to exist. Stocks of carbon black have now reached the highest point in history and are still increasing at a rapid rate, according to Godfrey L. Cabot, Inc. This has caused a weakening of the carbon black market. Whereas there were about a dozen new carbon black plants under construction at this time last year, the building of plants has now practically stopped, and it seems unlikely that any new ones will be started in the near future.

Carbon black is a very important commodity in the rubber and ink trades, being an indispensable ingredient in the manufacture of a good tire or a good printing ink.

DEATH OF C. E. CARNAHAN

TIDIOUTE, Pa., Jan. 11.—Charles Edson Carnahan, extensive oil operator in Warren and Forest Counties, Pennsylvania, died at his home here on Saturday, January 4. Mr. Carnahan started in the oil business at the age of 11 years, and continued until his death at the age of 61 years. Mr. Carnahan's most notable achievement was the discovery of the locally famous Queen pool, near Tidioute, seven years ago. At the time of his death he was the owner and operator of important productive properties in the Middle Field. The funeral was held on Tuesday.

DISCUSS ALL PHASES OF SAFE OPERATION

(Continued From Page 129)

and accessory equipment and auxiliary buildings, small sites, drainage and fences. In construction of buildings consideration must be given to foundation, compressor units and auxiliary equipment.

Plant Site

"In so far as safety is concerned," Mr. Shea says, "the advantages offered by selecting a site with reference to topography call for considerable attention. An elevated location is superior to one that is perfectly level, because the buildings and equipment can be arranged so that gasoline or oil from a bad break or spill will flow away from the source of ignition and thus reduce perceptibly the danger of fire. Furthermore, a site having natural drainage is preferable to one where drainage might become a serious problem. As regards utility the use of varying levels on which plants are located facilitates the gravitational flow of liquids in certain directions.

"A slightly elevated ridge with gently sloping flanks is a desirable location for a gasoline plant. The advantages of such a setting lie essentially in the location of the more dangerous equipment. With boilers and compressors on one down flank, absorbers, distillation units and storage facilities on the other and cooling towers on the crest, drainage may be directed and the layout presents a safe and favorable arrangement. A site on either a uniformly sloping or terraced tract of land also permits installation of the hazardous equipment at different levels. Because of the many areas conforming to a setting of this type it is one quite commonly chosen.

"Consideration must be given to the location and spacing of the equipment on level ground. The drainage problem requires added attention and frequently pumps must be installed to transfer the accumulations of oil and gasoline to a common sump. In many installations the extra expense of fire-wall protection is necessary.

"Although many operators still locate gasoline plants on level ground, the practice is being superseded, where topography permits by utilizing every portion of a natural terrain to the best advantage. Even level sites, however, should be chosen in preference to locations in a hollow or on sloping ground in a valley, where conditions favor the accumulation of vapors in pockets, thus creating a fire menace to the plant. All things properly considered suggest the selection of an elevated area for a plant site, with a preference for an elevated ridge with gently sloping flanks. Many other details of plant safety are discussed in the bulletin known as technical paper 462. Copies are obtainable from the Superintendent of Documents, Washington, D. C.

PRINGLE MADE GENERAL MANAGER TIDAL OIL CO.

Ralph B. Pringle, former vice president in charge of production for the Independent Oil & Gas Co., has become vice president and general manager of the Tidal Oil Co. This position in the Tidal has been vacant since A. A. Beard resigned last summer.

EARLSBORO OPERATORS MEET

A meeting of East Earlsboro operators was held in Tulsa Tuesday to discuss the question of increasing the curtailment of production in the Seminole County, Oklahoma, Pool to 50 per cent for the remainder of January because of the recent big increase in its potential output. All of the companies operating in the field were not represented at the meeting. Umpire Ray M. Collins was instructed to interview the absentees. If they agree to the plan the change in proration from 40 to 50 per cent will be made effective at once.

RIG TWO MORE TESTS IN VAN POOL; MANY CORE DRILLING OPERATIONS

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 13.—Status of the four wells now drilling in the Van Pool, Van Zandt County, Texas, are as follows: Pure-Texas companies' No. 1-A Tunnell is 2,271 feet in shale. Pure company's No. 1-A Wells is 2,338 feet in chalk; it cored from 2,298-2,338 feet. Pure company's No. 1 Magers is drilling in sandy shale at 1,221 feet; it cored sand and shale from 1,185-1,203 feet, encountering a showing of oil from 1,185-90 feet, and a saturated sand showing oil from 1,203-12 feet. Shell Petroleum Corp.'s No. 1-A Fowler had a showing of gas from 1,632-39 feet, and is now drilling shale at 1,856 feet. Total Van production for the 24 hours ending 7 a.m. January 12 was 3,703 bbls. from the four producing wells.

Two more tests are now rigging up in the pool. Pure Oil Co. and The Texas Company's No. 1-A White, 600 feet from the south and 313 feet from the west lines of the White 35-acre tract in the M. Gross Survey, is north of the producers and a short distance south of Pure Oil Co.'s No. 1 Magers. The second location is Pure Oil Co.-Sun Oil Co.'s No. 1 I. W. Thompson, 650 feet from the south and 313 feet from the west of the I. W. Thompson 35-acre tract in the John Walling Survey.

Four miles east of Grand Saline in Van Zandt County the Van Zandt Oil & Development Co. is spudding on its No. 1 Robinson. In the Ben Wheeler district the Central Oil Co. is shut down at 825 feet on its No. 1 West. McElmurry is spudding No. 1 Peel, and Powell and others have spudded No. 1 Bailer and shut down to clear titles. T. G. Shaw is drilling below 1,800 feet on No. 1 Huddle in the L. Richardson Survey, southwest of the Van Pool, and Thornton and Taubert are shut down at 1,350 feet on No. 1 Everette. This test is 3½ miles southeast of the town of Canton.

Anderson County

In Anderson County the Humble Oil & Refining Co. is drilling below 4,040 feet in lime on its No. 1 Birdwell, which created considerable excitement a few weeks ago when it topped a high chalk. Roeser & Pendleton are drilling at 2,050 feet in hard shale on No. 1 Moody in the James Walsh Survey, 7 miles east of the town of Bethel. Mr. Coleman is working on a block centering around the E. Y. Myers Survey, approximately 3 miles north and east of the town of Tucker. A location will probably be made on the block as soon as titles are cleared and all the desired acreage purchased.

The Gulf Production Co. is taking a block of acreage around the Harris Survey which joins the Humble Oil & Refining Co.'s Brush Creek block on the west and extends over to Roeser & Pendleton's block in Anderson County.

In Cherokee County the Mid-Kansas Oil & Gas Co. is core drilling its second well on a block owned by the company. It has completed its first core test in this block.

The East Texas Oil Corp.'s No. 1 Kadane in the John McFadden Survey, 4 miles east of the Van Pool, in Smith County, is now drilling below 1,220 feet. This well has been shut down at 1,160 feet for several weeks.

Frank Foster and others' (Deep Rock Oil Co.) No. 1 Bowdoin in the Lindale district, Smith County, has spudded and shut down. The Mid-Kansas Oil & Gas Co. is core drilling on its Troup block in the southeastern part of the county.

The Shell Petroleum Corp. continues to core drill on its block in the southern part of Henderson County, centering around the William Brown and Cooper Surveys. The Humble Oil & Refining Co. is still core testing its Murchison block in the county.

The Magnolia Petroleum Corp. is believed to be moving north of No. 1 Mirtie Durant in Rusk County and will drill the second test in this area. The former test was abandoned at 4,042 feet.

The Mid-Kansas Oil & Gas Co., Shell Petroleum Corp., Gulf Production Co. and Amerada Petroleum Corp. are all doing considerable geophysical work in East Central Texas, and the fore part of 1930 will undoubtedly see considerable work of all kinds of exploration done in this area, followed by more tests in various parts of the district.

Production

Daily average production of the various pools in this area for the past week follows:

East Central Texas

Boggy Creek	3,325
Cedar Creek	50
Currie	358
Hill County	38
Mexia	4,699
Minerva	560
Nigger Creek	260
Powell	6,706
Richland	325
Thrall	35
Van	4,362
Wortham	900
Total	21,618
Week ending January 4	23,499
Decrease	1,881

ANTIKNOCK FUEL FROM PENNSYLVANIA OIL

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by use of a Hempel column. The data follow:

Cracked Distillate

A.P.I. gravity	54.5°
I.B.P.	78°F.
Per cent distilled over	°F.
10	154
20	194
30	236
40	279
50	323
60	360
70	398
80.5	430

The cracked gasoline after treating and rerunning of the pressure distillate passed all market specifications and analysed as follows:

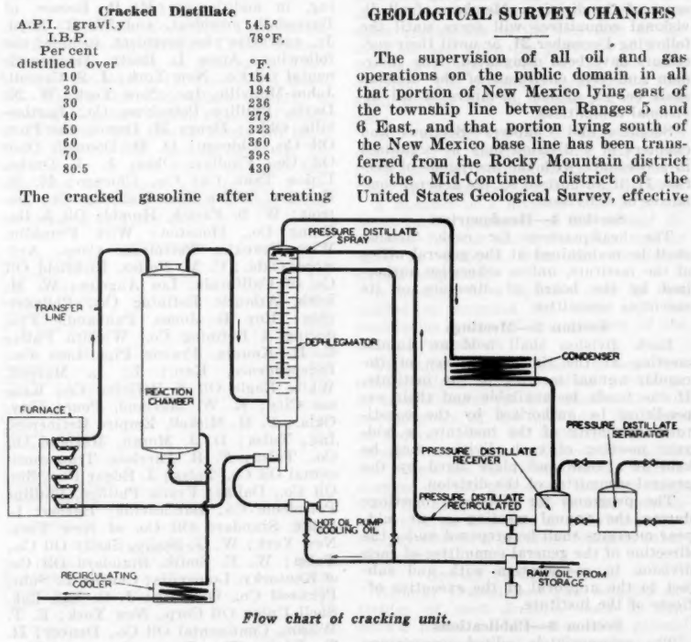
Finished Gasoline

A.P.I. gravity	59.1°
	(glass dish) 20
	(copper dish)
Gums (mgs.)	*0
Color	30
Odor	Good
Doctor	Sweet
Corrosion	Negative

*(Glass dish) 20—(copper dish).

I.B.P.	82.°F.
Per cent distilled over	°F.
10	142
20	180
30	220
40	250
50	284
60	314
70	344
80	374
90	406
Endpoint	424
Benzol equivalent, per cent (Delco motor test)	50.0

The pressure distillate bottoms have high utility as a furnace oil, Diesel oil or recracking stock.



Flow chart of cracking unit.

The analysis by the A.S.T.M. method follows:

A.P.I. gravity	38.4
I.B.P.	429.°F.
Per cent distilled over	°F.
10	452
20	456
30	463
40	469
50	478
60	490
70	501
80	560
90	575
Endpoint	655

Conclusions

1. It has been conclusively shown that in commercial practice high temperatures are not necessary to produce antiknock motor fuels of 50 per cent benzol equivalent.

2. It has also been shown that high temperatures and pressures are not necessary to produce yields of motor fuel of over 65 per cent from refractory cracking stocks such as Pennsylvania gas oil.

3. The volume of gas produced per barrel of charging stock or gasoline is low, being 530 and 779 cubic feet respectively.

4. The cracked distillate is simple to treat to market specification gasoline, requiring only 1½ pounds of sulphuric acid per barrel. The treating and rerunning losses to produce finished gasoline are 2 per cent based upon the gas oil charge.

5. The finished gasoline passed all market specifications and was low in gums. The gum test showed zero milligrams by the glass dish and 20 milligrams by the copper dish method.

GEOLOGICAL SURVEY CHANGES

The supervision of all oil and gas operations on the public domain in all that portion of New Mexico lying east of the township line between Ranges 5 and 6 East, and that portion lying south of the New Mexico base line has been transferred from the Rocky Mountain district to the Mid-Continent district of the United States Geological Survey, effective January 1. The area transferred embraces the entire Las Cruces land office district and that portion of the Santa Fe land office district lying east of the township line between Ranges 5 and 6 East. The remainder of New Mexico will continue under the supervision of the Rocky Mountain district, with a local office at Farmington, N. M.

The transfer of part of New Mexico to the Mid-Continent district includes the office located at Roswell, N. M., which is in charge of E. A. Hanson, of the United States Geological Survey. The Mid-Continent district of the United States Geological Survey has its headquarters at Muskogee, Okla. Hale B. Soyster is supervisor.

PHILLIPS BUYS STATIONS

The Phillips Petroleum Co. has acquired eight bulk stations and nine service stations in south Illinois belonging to the Mitchell Oil & Gas Co. The stations are the first to be acquired by the Phillips company in Illinois.

INVESTIGATION IN CALIFORNIA INVOLVES MARKETING PRACTICES

An investigation relative to gasoline prices which was declared by the president of one of the companies concerned to be a test of the legality of the code of ethics adopted by the marketing branch of the oil industry, got under way Monday in a special session of the Federal grand jury at San Francisco.

The grand jury investigation under the direction of United States District Attorney George J. Hatfield is said to have been brought about at the instigation of the attorney general's department at Washington, following an extended inquiry based on complaints by small dealers who claimed that they were being driven out of business through the unlawful action of the large distributors. It is claimed that the larger companies conspired to establish prices which did not leave a margin for the dealer to operate profitable.

The executives of a large number of oil companies operating on the West Coast have been subpoenaed to appear before the grand jury. The companies whose representatives will appear are as follows:

Standard Oil Co. of California, Shell Oil Corp., Western Oil & Refining Co., Associated Oil Co., American Refining Co., General Petroleum Co., Edington Witz Refining Co., Gilmore Oil Co., Richfield Oil Co., Hercules Oil Co., Petroleum Oil Co., Sunset Pacific Oil Co., Union Oil Co., Vernon Oil Co. and United States Refining Co.

The court order required that records of the companies be produced, together with minutes of the various boards of directors relating to gasoline sales since June 1, 1928.

Kingsbury's Statement

H. R. Kingsbury, president of the Standard Oil Co. of California asked about the investigation, made the following statement:

"It appears the investigation will relate to the adoption of a code of marketing ethics by the oil industry. The national code of marketing ethics was framed after two years of public effort on the part of the American petroleum industry for the purpose of securing uniformly fair practices in the oil industry and to promote the principles of conservation in business in which the Federal administration has shown so much interest. The proposed code was submitted by the American Petroleum Institute to the Federal Trade Commission and brought to the attention of the department of justice.

"Later the Federal Trade Commission approved the code, after it had made certain amendments thereto, and the code was signed by oil companies throughout the United States at the request of the Federal Trade Commission. It is surprising that the legality of the code should now be subjected to investigation and attack by the department of justice.

"It would seem that the oil industry was justified in assuming that a code of marketing practices which was fostered and specifically approved by the Federal Trade Commission and signed at the commission's request would not thereafter be attacked by the department of justice. In effect it is an attack upon a movement in the oil industry directly in line with the efforts of the administration as recently indicated by the conferences called by the president for the stabilization of business and the promotion of economy in business practices.

"As to reference in the press to the alleged agreement with Mr. Long, this relates to purchase of gasoline from Long sold to him by small refiners whose marketing facilities are limited. The arrangement has been discussed on several occasions with representatives of the Department of Justice, who considered that it was not a matter of the federal Government's concern, being wholly intrastate, having no bearing on interstate commerce or prices.

"It is a peculiarly unfortunate time for the department of justice to attack those who are endeavoring to co-operate with the government in promoting its policies of conservation not only in marketing but in production of crude oil and whose efforts are already attended with enough difficulty. Such an attack will obviously encourage those who, for selfish reasons, are opposing these policies."

Washington Viewpoint

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Jan. 14.—The Department of Justice has uniformly declined to make any statement in respect to the principles involved in the grand jury proceeding in California to ascertain if there is any violation of law in the alleged fixing of wholesale and retail prices of gasoline on the Pacific Coast. Some of the California oil interests have alleged that their conduct of business has been strictly in accord with the code of ethics of the American Petroleum Institute, approved by the Federal Trade Commission. The attorney general has taken no position in respect to the approval or disapproval of the code of ethics or of the action of the Federal Trade Commission and no decision by him is expected until the grand jury investigation has been completed and action then must depend upon the outcome of the work of the grand jury.

While it would be a very curious proceeding to indict oil men for following the code of ethics approved by the Federal Trade Commission, such a result is possible because independently of anything that the Federal Trade Commission might do, the Department of Justice has full authority to bring a test case to see if the Federal Antitrust Laws are violated. The Federal Trade Commission is in the same status as an inferior court and its action could not bind a higher court. The Federal Oil Board in its decisions is in a similar position except that it is supposed to act under the guidance of the attorney general in view of the fact that Cabinet officers under the law are entitled to receive opinions from the attorney general. But if the Federal Oil Board should take action not approved by the Department of Justice, the attorney general would have authority to bring prosecutions against defendants acting in accordance with the advice of the Oil Board.

Presumably the Department of Justice received information from its agents indicating violations of the Federal antitrust laws by some people connected with the oil industry, and its action before the grand jury will sift these charges without regard to the manner in which the action of the oil industry was brought about.

Attorney generals have consistently refused to indicate what any business interest can do to avoid prosecution under the Federal antitrust laws. Under the previous administration Assistant Attorney General William J. Donovan, in charge of prosecutions under the antitrust laws, suggested his readiness to point out to business men undertaking unusual enterprises acts that would violate the antitrust laws and for which they might be prosecuted but he was never willing to approve their contemplated acts as legal in a way to assure them that they would not be prosecuted. In other words, the Department of Justice has insisted upon retaining a free hand to institute prosecutions whenever, in its judgment, there has been a violation of law.

FIRMER TONE IN DOMESTIC GASOLINE

(Continued from Page 36)

sylvania bright stock which reached a high of 57 cents last summer now being available at 41 to 42 cents.

The explanation of the price strength in the Mid-Continent bright stock apparently lies in the fact that very little material is being offered on the spot market. As explained in these columns several refiners have made contracts based on published quotations with a low of 33 cents and a high of 39 cents. So long as there is no accumulation at refineries and no effort is made to force sales on the spot market quotations will continue at their present levels despite the weakness in the eastern market. Manufacturers expect the eastern demand to improve in the near future, due to the preparations being made to take care of the spring and summer demand.

Tank Wagon Prices

The action of the Standard Oil Co. of New Jersey and other companies in adjusting gasoline tank wagon and service station prices on a basis of transportation costs has resulted in predictions that there would be a general lowering of prices in the Southwest and Middle West. Such a program in part was adopted in Texas last week by the Magnolia Petroleum Co. and other large distributors.

A majority of the trade however feel that this action which has largely been confined to the coastal states will have no direct reflection in the states of the Middle West. It is pointed out that the Standard Oil Co. of Indiana, the largest distributor in the Middle West for years, has established gasoline tankwagon and service station prices largely on a basis of freight rates from Whiting, Ind., where the company's largest refinery is located. Thus the policy adopted by the Standard of New Jersey was already partially effective in the territory where the Oklahoma and Kansas refiners sell the bulk of their gasoline output.

There are those in the trade, however, who believe that the policy will be extended so that the Sugar Creek, Mo., and Wood River, Ill., refineries of the Standard of Indiana and the Casper, Wyo. refinery of the Midwest Refining Co., a subsidiary company, will be made base points and tank wagon and service station prices established in contiguous territory on a basis of transportation costs from these plants. The bulk of Oklahoma, North Texas and Kansas refinery gasoline is sold in a territory served by the Standard's Wood River and Sugar Creek refineries so that a lowering of tank wagon and service station prices would be of direct concern to Mid-Continent operators.

Gasoline and Naphtha

Most of the larger refiners in Oklahoma continue to quote U. S. Motor gasoline at a price range of 6½ to 7 cents. Spot sales at these prices are scarce. Refiners, however, report a fair movement on their regular contracts which are based on these published prices.

Most of the refiners who are active in the spot market are quoting at a price of 6 to 6¼ cents. At least two refiners in Oklahoma who had been quoting 6 cents have advanced their price to 6¼ cents. There is less disposition to cut prices and buyers are having greater difficulty in securing price concessions. A price of 6½ to 6¾ cents is the prevailing market on the 60-62 400 endpoint grade. Prices on the higher gravities are slightly lower than last week. Heavy shipments on export orders for these grades have been made during the past week and due to this business refiners have been able in a few instances to reduce storage.

One refiner who is selling a 50-52 450 endpoint naphtha reports an increased demand. Ordinarily when natural gasoline prices slump as they have the past two weeks the demand for naphtha as blending material increases. The high gravity blend is in demand as a winter motor fuel. U. S. Motor prices, however, are so low that no large increase in the blend demand is expected.

Kerosene and Distillate

There was no charge in the kerosene and distillate either in regard to prices or demand. As in the case of gasoline refiners appear determined not to give further concessions in kerosene prices. A 41-43 water white kerosene sold as low as 4 cents in Oklahoma during the past week but the prevailing price range is 4⅛ to 4½ cents. A few refiners continue to quote the 42-44 grade at 5 cents although it is available from other sources as low as 4⅝ cents.

All grades of distillate are freely offered at last week's prices. Some of the sellers state that the demand on contracts has been more active while others declare that jobbers are behind in their orders.

Natural Gasoline

Inquiries from buyers indicate that substantial orders may be placed at the present low prices. At least two inquiries were in the market for purchases of 200 cars or more. The buyers failed to find enough manufacturers willing to sell at the low prices. The price differential between natural gasoline and refinery gasoline, particularly the high gravity grades of refinery gasoline, is sufficiently wide to attract buyers who need the natural gasoline for blending purposes. One inquiry came from an exporter who is in a position to stabilize the natural gasoline and sell it to foreign buyers without blending.

Lubricants and Wax

The largest manufacturer of neutral oils in Oklahoma has withdrawn from the spot market. This refiner is reported to be sold up on most grades and not in a position at this time to take on spot business. At least two other refiners, however, are actively soliciting business at lower prices.

The wax market continues dull. The greater activity predicted for January is yet to materialize so far as Oklahoma is concerned. Exporters continue to make inquiries at prices which are acceptable to most of the sellers.

WILDCAT COMPLETED NEAR MT. PLEASANT

By Special Correspondent

MUSKEGON, Mich., Jan. 13—The outstanding developments in Michigan fields included the completion of a new wildcat producer 5 miles ahead of production in the Mount Pleasant Field and the completion of three good new producers in the proven Mount Pleasant Field. Two dry holes, one in Clare County and one in Isabella County also were completed and plugged and a third dry hole was reported in Denver Township, Isabella County.

Operators were particularly interested in the Midland Oil Development Co.'s No. 1 Buck, SE NW Section 19-15n-2w, Geneva Township, Midland County, completed as a 15 bbl. pumper in the Dundee formation, topped at 3,620 feet, about 100 feet lower than in the proven Mount Pleasant Field. Oil was struck at 3,648 feet and water at 3,678 feet. The hole was plugged back to 3,660 feet, and the well swabbed 30 bbls. in 10 hours. It will be placed on the pump. It is about 5 miles northwest of production in Midland County.

The largest completion in the Mount Pleasant Field and in the state was the Leonard Oil & Gas Co.'s No. 4 McClintic, NW NE Section 11-14n-3w, Chippewa Township, Isabella County. It came in with 600 bbls. initial in the Dundee at 3,563 to 3,590 feet. Dundee was topped at 3,533 feet.

The same company's No. 6 McClintic, SW NE Section 11-14-3, also Chippewa Township, made 210 bbls. initial in the Dundee, topped at 3,544 feet, with pay sands at 3,654 feet and completed at 3,607 feet.

The Pure Oil Co.'s No. 7 John Fox, SE NE Section 13-14-3w, also Chippewa Township, made 200 bbls initial topping the Dundee at 3,510 feet, the pay at 3,543 feet and suspending drilling at 3,592 feet.

The Gordon Oil Co.'s No. 1 Isabella State Bank, a wildcat in SE SE Section 8-15n-3w, Denver Township, Isabella County, was dry in the Dundee at 3,751 feet and drilled to 3,754 feet before abandonment. It also was reported that the Chippewa Oil and Gas Co.'s No. 1 Keeler, SE SE Section 27-15n-3w, Denver Township, was dry in the Dundee.

Clare County

The Decem Development Co.'s No. 1 F. Salters, NE NE Section 33-18n-6w, Fremont Township, is the first dry hole in Clare County where considerable wildcat play will be centered during the coming year.

Kansans Disagree as To Proration Rules In McPherson County

An intensive drilling campaign is threatened in Kansas, which may result in a serious overproduction of crude oil. At a meeting held Friday, January 10, in Wichita, representatives of 19 oil companies owning acreage in the Voshel Pool, in McPherson County, were present. The Derby Oil & Refining Co. and E. W. Marland, Inc., through their representatives, refused to agree to the continuation, until March 31, of the present proration plan, which expires February 15.

A. L. Derby, president of the Derby Oil & Refining Co., was not present, but was represented by E. C. Moriarty, vice president. Mr. Moriarty said he had no authority to agree to continue the present plan of allowing the wells to produce only 50 bbls. daily, but was empowered to agree to a plan that would allow operators in the area to produce the wells 50 per cent of their potential output. Following this proposal, D. H. Kelsey, vice president of the Prairie Oil & Gas Co., gave the operators a hint of what might be expected if the curtailment of oil production was lifted in the Voshel Pool and other flush pools in Kansas. Mr. Kelsey's point of view was generally approved and the operators present accepted the statement as meaning that unless oil production was further curtailed a cut in the price of crude oil might follow. All other areas in Kansas where large flush oil production is found are prorating. It is believed that a price cut would apply to the Voshell Pool only.

The conference adjourned after it had been voted to continue the present Voshel proration plan on the same basis until March 15, provided that the committee, appointed by J. Garfield Buell, state operators' chairman, succeeded in its efforts to induce the Derby Oil & Refining Co. and E. W. Marland, Inc., to agree. The E. W. Marland, Inc., has no production in the Voshell Pool at the present time.

The 17 operators agreeing to a continuation of the proration are expected to work out a new proration plan, to be effective after March 15.

Mr. Moriarty stated that the Derby Oil & Refining Co. would be satisfied if it could be permitted to produce a maximum of 2,000 bbls. daily from its lease in the Voshel Pool. The company feels it should be given more liberal discovery rights.

Representatives of E. W. Marland, Inc., said the company believed all flush pools in Kansas should be prorated on a similar basis.

A. L. Derby, president of Derby Oil & Refining Co., when seen by the committee on Tuesday, declared his company intends to construct a 4-inch pipe line from its lease in the Voshel Pool to the town of Burton, in McPherson County, and ship its oil in tank cars to the company's refinery at Wichita. The company plans to run its own oil after the present proration plan expires February 15.

The Shell Petroleum Corp. is laying a new 6-inch pipe line into the Voshel Pool from its station at Burton. The pipe line connects with the company's refinery at Arkansas City.

J. Garfield Buell, chairman of the Kansas proration committee, has called another meeting of operators of the Voshel Pool, to be held Tuesday, January 21. The meeting will be held to discuss the curtailment in the Voshel Pool, which the Derby and Marland companies want modified. Under the present proration plan all completed wells are pinched to 50 bbls. a day.

The Valley Center Pool or Wright Pool operators, voted unanimously to extend proration on the present 50 per cent basis from January 15 to March 31. Operators were told by T. C. Johnson, state umpire, that a check of the refiners and pipe line companies running out of Kansas disclosed that their needs might be in excess of 115,000 bbls. daily. This figure was compared with a probable production of 140,000 bbls. a day on February 15, if proration was lifted in the Voshel Pool.

CALIFORNIA STORAGE FACILITIES NOW TOTAL 238,500,000 BARRELS

By E. T. Knudsen

This survey of storage capacities includes all storage equipment of oil companies operating on the Pacific Coast, i. e., field storage, refinery storage and storage at distributing points. Storage of consumers, such as railroads, is not included. Information was requested as to the crude petroleum storage capacity and the refined products storage capacity but the data did not furnish the segregation completely. The following figures, therefore, combine all products, but are segregated according to location and type of storage.

The storage capacities as of September 1, 1929, amounted to 238,500,000 bbls., of which 5,036,000 bbls. was under construction in California; 1,972,000 bbls. in Oregon and 3,356,000 bbls. in Washington; a grand total of 243,828,000 bbls. The last census of storage capacities, taken by the U. S. Bureau of Mines as of May 1, 1926, showed a total of 195,825,000 bbls. in California and 70,000 bbls. in Washington. Although these earlier figures do not include producers' storage at the wells, it is not likely that this class of storage is of such size that the omission would depreciate the comparative value of the two sets of figures.

Stocks of petroleum and petroleum products in Pacific Coast territory as of September 1, 1929, amounted to 173,768,000 bbls., of which approximately 173,000,000 bbls. was stored in the tankage listed herein, the balance representing coke and such products as are not stored in tanks. Allowing 10 per cent, or approximately 17,000,000 bbls. for working space, the indicated empty storage on the Pacific Coast was 48,792,000 bbls. and an additional 5,036,000 bbls. was under construction. Investigation disclosed, however, that much of this empty storage is not readily available for use, being obsolete and in a state of disrepair, this being especially true of the nearly 20,000,000 bbls. of earthen storage in the San Joaquin valley.

Steel Storage

A very definite trend toward steel storage is indicated by the increase of this type in California from 94,602,000 bbls. in May, 1926, to 130,449,000 bbls. in September, 1929. The storage under construction in California and the storage in Oregon and Washington is also all steel. Concrete storage increased from 71,412,000 bbls. in May, 1926, to 82,986,000 bbls. in September, 1929, while earthen storage dropped from 29,802,000 bbls to 19,850,000 bbls.

Of the 233,464,000 bbls. of storage in California, 135,787,000 bbls. is in the Los Angeles section, which has in addition 4,594,000 bbls. under construction. The San Joaquin valley has 64,228,000 bbls., of which 19,830,000 bbls. is earthen storage. It seems probable that a large proportion of the empty storage is in this section. The San Francisco Bay district, including all territory in California north of San Francisco, has 29,628,000 bbls. of storage, of which 25,863,000 bbls. is steel storage. The 442,000 bbls. of steel storage shown as under construction in the San Francisco Bay district is not strictly new storage, but is simply being moved from one place to another and being reconstructed. The Coast region, including all of Ventura and Santa Barbara counties, has 3,821,000 bbls. of which 170,000 bbls. is wooden and is not in use at the present time.

Following is a tabulation showing the location and types of storage:

STORAGE CAPACITIES FOR PETROLEUM AND PETROLEUM PRODUCTS ON THE PACIFIC COAST, SEPTEMBER 1, 1929.
(Barrels)

Location	Steel	Concrete	Earthen	Wooden	Total
CALIFORNIA:					
aLos Angeles	*76,130,000	52,644,000	4,000	9,000	*135,787,000
bCoast Region	3,629,000	6,000	16,000	170,000	3,821,000
cSan Joaquin Valley	24,827,000	19,571,000	19,830,000	.....	64,228,000
dS. F. Bay District	*25,862,000	3,765,000	.....	.....	*29,628,000
Total	*130,449,000	82,986,000	19,850,000	179,000	*233,464,000
OREGON	1,972,000	.....	.....	.....	1,972,000
WASHINGTON	3,356,000	.....	.....	.....	3,356,000
PACIFIC COAST TOTAL	135,777,000	82,986,000	19,850,000	179,000	238,792,000

*Steel storage under construction, Los Angeles—4,594,000 bbls., San Francisco, 442,000 bbls., not included.
aIncludes San Diego region.
bIncludes all of Ventura and Santa Barbara Counties.
cIncludes San Luis Obispo.
dIncludes all territory north of San Francisco in California.

NOMINATE OFFICERS FOR MID-CONTINENT SECTION

The Committee on Nominations for the Mid-Continent Section of the American Institute of Mining and Metallurgical Engineers, comprised of J. R. McWilliams, David L. Trax and Carel B. Mapes have placed the following slate before the members for consideration and vote: Harry H. Power, Gypsy Oil Co., Tulsa, for chairman; L. A. Ogden, Empire companies, Bartlesville, for vice chairman; Howard S. Bryant, Skelly Oil Co., Tulsa, for secretary-treasurer. The executive committee nominated is L. G. E. Bignell, Paul Ruedemann, H. B. Goodrich and C. E. Beecher.

The annual meeting of the Mid-Continent Section will be held February 11, at which time the result of the voting will be made known and the new officers installed into their respective offices.

Mr. Power has been the secretary-treasurer for this section for the past year and his good work in the interest of the Institute would seem to indicate that his promotion to the higher office of chairman will insure a continuation of activity. It is customary for the incoming chairman to act as delegate to the annual meeting of the Institute held in New York City February 17-20 this year.

The membership is also asked to vote upon a change in the by-laws to create a new office of second vice chairman, this officer to be chairman of the program committee and to be elected for this particular duty in the future.

HARRY PERKINS WITH ST. LOUIS SURFACER

Harry F. Perkins, formerly with the Gulf Refining Co. at Port Arthur, Tex., and nationally known as chairman of the refinery and marine section of the American Petroleum Institute committee on corrosion, has accepted the position of technical director of the St. Louis Surfacer & Paint Co., at St. Louis, Mo. Mr. Perkins has devoted considerable time and research to corrosion problems of the petroleum industry and was selected by E. W. Clark when the latter was president of the Institute as a member of the original advisory committee on corrosion.

In stating his plans, Mr. Perkins said: "My initial efforts with the St. Louis Surfacer & Paint Co. will be towards the development of a technique for the application of aluminum foil, which includes conisderable research work in the production of suitable adhesives. I consider that the application of aluminum foil, or in fact other foils that would be more suitable in special cases, to be the greatest advance made in a long time in the mitigation of the corrosion nuisance. Polished foil has three excellent advantages over past results. It not only resists corrosion well under a large variety of conditions, but it also is a good reflector of light and heat, and will also serve to protect flammable structures against fire, and the nice thing about it is that the cost of application is going to be quite reasonable."

Sinclair and Prairie Officers on Trip with Rio Grande Official

NEW YORK, Jan. 13.—Consummation of the long reported consolidation of Sinclair Consolidated Oil Corp. and Prairie Oil & Gas Co. with the inclusion of Rio Grande Oil Co. in the merger is indicated by the departure of Harry F. Sinclair, chairman of the board, President E. W. Sinclair, Vice President C. E. Crawley, and several other company executives, for an inspection trip which will carry them to the Pacific Coast and through the Mid-Continent area. Charles S. Jones, vice president of Rio Grande Oil Co., is a member of the party and W. S. Fitzpatrick, chairman of the board of the Prairie Oil & Gas Co., will join the party in St. Louis. Sinclair and Prairie engineers have recently been surveying the properties of the two companies presumably for valuation purposes. A Sinclair-Prairie oil merger would probably be accompanied by inclusion of Prairie Pipe Line Co. with Sinclair disposing of its half interest in Sinclair Pipe Line and Sinclair Crude Oil Purchasing Co. to Standard of Indiana which owns the other half.

SKELLY GIVES $100,000 FOR TULSA UNIVERSITY

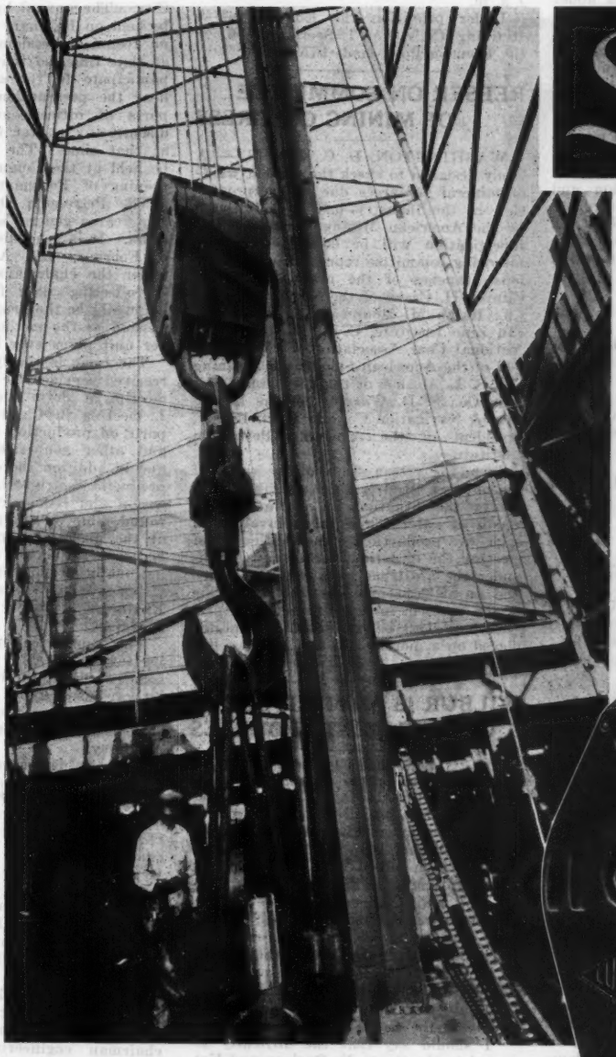
Announcement was made the last week by H. C. Tyrell, chairman of the committee in charge of the University of Tulsa's expansion and endowment program, that a gift of $100,000 had been made by W. G. Skelly, president of the Skelly Oil Co. At the same time Mr. Tyrrell gave out a letter from C. C. Herndon, vice president and counsel of the company, that the organization had authorized a company gift of $22,500 to go to the endowment fund of the university's school of petroleum engineering. Mr. Skelly's personal gift is believed to be the first major contribution to higher education for 1930 in the United States.

Mr. Tyrrell said that two other oil companies had indicated their intention to contribute generously to the university school of petroleum engineering and it is believed likely that the entire $500,000 needed for the school will be forthcoming from oil industry leaders.

Waite Phillips, chairman of the board of the Independent Oil & Gas Co., has contributed more than $200,000 for erection and furnishing of the engineering school building. J. A. Hull, president of the J. A. Hull Co., Tulsa oil producing concern, gave $60,000 for a professorship endowment. E. P. Harwell, Tulsa oil producer, who is credited with having kept the university alive at a time when its financial resources were low, is believed to have given more than $500,000 to the institution. Gifts by Harry C. Tyrrell, Tulsa oil man and banker, and Mrs. Tyrrell, total more than $250,000. They include the Fine Arts Building, their special gift and the endowment of a professorship.

DEATH OF RALPH SHATTUCK

DALLAS, Tex., Jan. 11.—Ralph H. Shattuck, aged 52, connected with the producing department of the Atlantic Oil Producing Co. for the past 10 years, died recently at his home here. He was well known throughout the Mid-Continent oil fields.



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Late Fields

(Continued from Page 48)

conduct a further investigation before deciding one way or the other. As the matter stands at present, it looks like the commission will recommend the removing of restrictions in part of the area under lease, but will probably hesitate before opening any territory down very close to the bathing beach, due to prevailing public opinion, which is not in sympathy with beach drilling because of oil contamination. In the meantime operators holding potentially productive acreage consisting of community leases on numerous town lots are marking time. Several representative bodies, such as the Playa Del Rey Improvement association and Venice Chamber of Commerce, have endorsed the petition to lift restrictions and this may prove valuable aid to those sponsoring the movement to sanction drilling.

NEVADA

LAS VEGAS, Nev., Jan. 14.—The first test for oil in Southern Nevada has been spudded in almost within the city limits of this town. For some time oil and gas seepages have been encountered in an area of several hundred acres. A. C. Derrick, formerly of the Humble Oil & Refining Co. of Texas, has the contract for drilling the well. His first contract is for 1,500 feet.

OKLAHOMA

Production in the Oklahoma City Pool showed a decline on Tuesday's gauges over the previous day's gauge. The field made 60,735 bbls. from 14 wells, today, while Monday's gauge was 75,327 bbls. from 16 wells. The gauges by companies and leases were as follows:

Company, lease—	Wells	Bbls.
Coline, Olds	2	4,033
Hall & Briscoe, Childs	1	*5,666
I.T.I.O., Fuzzell	1	13,692
I.T.I.O., Thomas Fuzzell	1	10,146
I.T.I.O., Johnson	1	2,776
I.T.I.O., Mackey	1	129
I.T.I.O., Peterson	1	1,639
I.T.I.O., Verne	1	145
I.T.I.O., Wheeler	2	1,325
Mid-Kansas, Fortson	2	3,304
Mid-Kansas, Browning	1	7,782
Prairie, Hiddleston	1	5,635
Sinclair, Stamper	2	60
Sinclair, School Land	1	4,405
Total	14	60,735

*9½ hours.

Indian Territory Illuminating Oil Co.'s No. 3 Henning, SE cor. SW SE, Section 24-11-3w, Oklahoma City Pool, was bailing down, at a total depth of 6,642 feet. The test has failed to flow and it may be swabbed. It has not yet had any showing of oil.

Several new locations were staked in the south end of the pool. Indian Territory Illuminating Oil Co. made a location for No. 2 Salsman, SW cor. NW NW, Section 32-11-2w, and another location for No. 3 Salsman, SW cor. NW. Section 32-11-2w Skelly Oil Co. made locations for No. 7, Hoopes, SW cor. NE NE, Section 31-11-2w, and No. 8 Hoopes, SE cor. NE NE Section 31-11-2w.

Magnolia Petroleum Co.'s No. 1 Noble 30-12-2w, a wildcat east of the Oklahoma City Pool, was drilling in shale at 7,075 feet. It was reported the test had the top of the Sylvan shale at 7,045 feet.

Magnolia Petroleum Co.'s No. 1 Young, in Section 22-21-2w, a wildcat in Noble County, made 1,110 bbls. on the gauge of January 14, at 7 a. m. The well has been pinched in, until a pipe line connection has been made. Some estimate the new well to be a 2,500-bbl. producer if allowed to produce wide open.

Tom Slick Oil Co.'s No. 1 Martin, C NW NW, Section 13-13-1w, a wildcat in Oklahoma County, near Jones, has drilled the cement plug at a total depth of 6,964 feet and was expected to start bailing January 14.

Shell Petroleum Corp.'s No. 1 Pharris, NE cor. NW. Section 21-13-6, Lincoln County, wildcat, found heavy oil in the Wilcox sand at 4,295-98 feet. It filled up 1,000 feet, with oil soon after bailing started. The test is shut down until the weather conditions improve.

The production of the East Earlsboro Pool was 67,894 bbls. on the gauge of January 14, at 7 a. m. from 115 wells.

Production in the East Little River Pool, on January 14, at 7 a. m. was 21,766 bbls. from 51 wells.

Sasakwa Pool made 11,591 bbls. from 28 wells on the gauge of January 14 at 7 a. m.

Under proration the Empire Oil & Refining Co.'s No. 1 Section 9-6-6, in the Konawa Pool, made 975 bbls.

REESER ON COMMITTEE OF MINING CONGRESS

WASHINGTON, D. C., Jan. 13. — A study designed to check the present waste of mineral resources due to overproduction in the industry has been initiated by the American Mining Congress. The investigation will be conducted by the following committee representing the various branches of the mining industry: Clinton H. Crane of the St. Joseph Lead Co., Ralph M. Roosevelt of the American Zinc Institute, C. E. Bockus of the National Coal Association, F. H. Brownell of the American Smelting & Refining Co., S. L. Mather of the Cleveland-Cliffs Iron Co., S. D. Warriner of the Lehigh Coal & Navigation Co. and E. B. Reeser, president of the American Petroleum Institute.

In addition to a study of the waste of the mineral resources, the committee will survey the situation in relation to the waste of capital and labor involved in such overproduction. The difficulty of meeting the situation due to restrictions under the antitrust laws will be studied and an attempt made to seek a solution of the problem in order that the natural resources shall be conserved and mining placed on a more sound and business-like basis.

WILBUR IS ADVISED OF CURTAILMENT TROUBLES

By Charles E. Kern

Washington Bureau. The Oil and Gas Journal

WASHINGTON, D. C., Jan. 13.—The reported clash on oil restriction among certain operators in the Santa Fe Springs and Kettleman Hills Fields of California has been called to the attention of Dr. Ray Lyman Wilbur, Secretary of the Interior and Chairman of the Federal Oil Conservation Board today. This report was in effect that important interests are producing oil in these fields in excess of the allowable output under the curtailment plan and it is believed the statement applies especially if not wholly to the Santa Fe Springs Field.

"I should say that the difficulty reported in the Santa Fe Springs and Kettleman Hills Fields is nothing more than would be normal under the circumstances," said Secretary Wilbur.

"So far as I know there has been no final interpretation of the California gas law. We are all waiting to see whether that law means business or not. I feel satisfied with the outlook but I do feel concerned about the uncertainty as to what will be done with the gas law.

"The trouble is that when it comes to putting these agreements into final form some people feel that they are hurt while others feel that they are benefited and that causes delay in getting together."

SASKATCHEWAN FRANCHISES

CHATHAM, Ontario, Jan. 11. — Reports that natural gas franchises had been granted by the Saskatchewan cities of Regina and Moose Jaw to a Montana corporation are officially denied by those cities. Applications for franchises have been made to the Regina city council by Charles Roth of Independence, Kans., who is operating in the Cypress Hills Field, and by an artificial gas company organized in Regina but financed by American capital. Northwestern Utilities, Ltd., of Edmonton, is planning to drill for gas in Saskatchewan; and the attitude of the Regina authorities is to take no action in regard to a franchise until the outcome of these and other tests is known.

INTERESTING PROGRAM FOR A.I.M.E. MEETING

The 139th meeting of the American Institute of Mining and Metallurgical Engineers will be held February 17-20, in the Engineering Societies Building, 29 West Thirty-Ninth Street, New York City. The annual business meeting will be held on February 18 at 10 a. m. and no technical sessions will be scheduled at that time, so that all members may participate in the election of officers, hear the presentaion of the annual reports of officers and committees and discuss any matter which may come up at that time. The annual dinner will be held at the Commodore Hotel on the evening of February 20.

The Petroleum Division will feature this year a general session on unit operation. It is scheduled for the afternoon of February 18. A special committee, under the chairmanship of Earl Oliver is collecting data for what will undoubtedly be the most comprehensive discussion of the methods of operating under unit plans ever brought together.

The topic is timely and pertinent and received considerable attention at the fall meeting at Tulsa and again at the A. P. I. meeting in Chicago. The yearly reports on production in the United States and other countries will be presented and in addition there will be sessions on production engineering, engineering education and economics. There will be a round table on engineering research and at the usual evening session there will be a general review and an address by a nationally prominent speaker. The Division will hold its annual dinner at the Engineers' Club on the evening of February 20.

The committee on geophysical prospecting plans this year to summarize some of the practical results obtained by various methods rather than to emphasize the theoretical side, it being the consensus that the time is ripe for such a survey.

The nominating committee for the Petroleum Division has prepared the following slate for officers of that Division for 1930: Charles V. Millikan, chairman; L. L. Brundred, associate chairman; H. C. George, secretary-treasurer; Joseph B. Umpleby, John Suman, Charles E. Beecher and J. A. Holmes, II, members of executive committee; William K. Whiteford, chairman production engineering; W. W. Scott, Earl Oliver and Victor H. Wilhelm, associate chairmen production engineer; J. Elmer Thomas, chairman for economics; D. B. Snow, chairman for production; Harry H. Hill, chairman engineering research; Ernest R. Lilley, chairman engineering education.

The chairman for refining engineering is to be selected by the executive committee for 1930.

RESIGNS FROM GAS COMPANY

Walter E. Hopper has resigned from the Arkansas Natural Gas Corp. at Shreveport, La., to devote all of his time to the business of the Southern States Co., Inc., of Shreveport, of which he is president. The Southern States Co. was organized about two years ago by H. C. Otis and Mr. Hopper and specializes in the tubing of oil and gas wells against pressure.

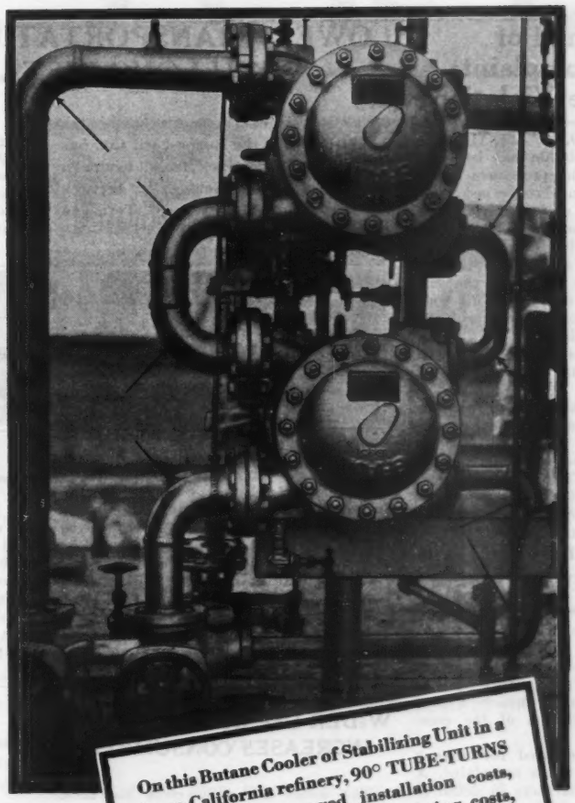
CONVENTION DATES CHANGED

CHICAGO, Jan. 11.—Notice has been received from the secretary of the South Dakota Independent Oil Men's Association that the dates of the annual convention have been changed to February 11 and 12, owing to conflict with dates already named for another convention.

TO ENLARGE PLANT

The California Northern Corp. of Oakland, Calif., is preparing to enlarge its lubricating oil plant at Coalinga, Calif. The plant at present has a capacity of 200 bbls. daily and preparations are being made to enlarge this plant to 1,000 bbls. daily.

What's Different about *THIS* installation?



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Of Interest to Sales Departments

Outline Method of Making Complaints In Code Violations

WASHINGTON, D. C., Jan. 11.—The Federal Trade Commission has issued a statement outlining the procedure necessary to file complaints concerned with the business methods of an individual or company. The procedure is of special interest to the marketing division of the oil business because of the adoption of the Code of Practices to govern the sale of refined petroleum products. This code has received the formal approval of the Federal Trade Commission and it is expected that complaints will be made from time to time regarding the violation of rules.

The method of making complaints has been made as simple as possible in order that small concerns will feel free to bring their grievances to the attention of the commission. The commission emphasizes the fact that all complaints issued have to be made in public interest and not to settle disputes between parties.

Method of Procedure

Following is the procedure as outlined by the commission:

A case before the Federal Trade Commission may originate in several ways.

The most common origin is through application for complaint on the part of a competitor or from other public sources. Another way in which a case may begin is by direction of the commission.

No formality is required for anyone to make application for a complaint. A letter setting forth the facts in detail is sufficient, but it should be accompanied by all evidences in possession of the complaining party in support of the charges being made.

When such an application is received, the commission, through its chief examiner, considers the essential jurisdictional elements. Is the practice complained of being carried on in interstate commerce? Does it come under jurisdiction of the Federal Trade Commission Act prohibiting unfair methods of competition? Would the prosecution of a complaint in this instance be in the public interest?

It is essential that these three questions be capable of answer in the affirmative.

Frequently it is necessary to obtain additional data either by further correspondence or by a preliminary investigation before deciding whether to docket an "application for issuance of compiaint."

Make Investigation

Once an application is docketed it is assigned by the chief examiner to an examining attorney or a branch office of the commission for investigation. It is the duty of either to obtain all facts regarding the matter from both the applicant and the proposed respondent.

Without disclosing the name of the applicant, the examiner may interview the party complained against, advising of the charges and requesting submission of such evidence as is desired in defense or explanation. After developing the facts from all available sources, the examining attorney summarizes the evidence in a final report, reviews the law applicable thereto, and makes a recommendation as to action.

The entire record is then reviewable by the chief examiner. If it appears to be complete, it is submitted with recommendation to one of the boards of review or to the commission for consideration. If submitted to a board of review, all records, including statements made

(Continued on Page 148)

LOWER TRANSPORTATION CHARGES WITH LONG DISTANT TRUCK HAULS

The Petroleum Transport Co., through a contract with the Burford Oil Co., has been operating a truck train, having a capacity of 4,500 gallons daily, between the Burford refinery at Pecos, Tex., and El Paso, Tex. The distance between the two points is 210 miles and the truck train makes the trip daily. It is believed to be the longest route ever covered by a truck train operating between a refinery or bulk station and a consuming point.

The transport company, which is managed by Perry A. Mead of Odessa, Texas, delivers gasoline to customers of the Burford company at El Paso. The present freight rate between El Paso and Pecos is 39½ cents per cwt. or 2.574 cents per gallon. Based on the first month's operation taking into consideration all cost factors, including interest on the investment and depreciation, the operation of the truck train does not exceed 2 cents per mile.

It is expected that another truck train with a capacity of 6,000 gallons will be in operation in another 30 days. This train will deliver gasoline from the Pecos refinery at Midland, Sweetwater, Abilene and other Texas points. Abilene is approximately 250 miles from Pecos.

Truck train with capacity of 4,500 gallons which makes round trip daily between Pecos and El Paso, Tex., a distance of 420 miles.

WIDER USE OF TRACTORS INCREASES CONSUMPTION

The wider use of tractors for farm work is responsible for the large increase in gasoline tax refunds according to a statement issued by the State Board of Equalization of Montana. The statement was issued following numerous complaints that much of the gasoline for which the state tax of 4 cents was being refunded, was actually used by farmers in their automobiles.

In its statement the board states there is no truth to these charges. It points out that tractors and combines have greatly increased in number during the past few years and they are large users of gasoline. The state reports show that there were 20,500 tractors in use in Montana during 1929 in contrast to a total of 6,600 in 1925.

The same situation apparently applies in several of the other states of the Northwest. Due to the fact that the gasoline used for farm machinery is generally exempt from the state tax it is almost as cheap as kerosene and other grades of fuel and is now generally used. There have been complaints in the cities of these states, the claim being made that the refund privilege was being used to evade the payment of the tax on gasoline consumed by motor cars.

REDESIGN TANK TRUCKS TO AID SAFE OPERATION

SAN FRANCISCO, Calif., Jan. 11.—In order to promote safety in the operation of tank trucks in heavy traffic the Associated Oil Co. is making important changes in the design of its equipment. The changes are explained in an announcement by the company as follows:

"We feel that changes now being made in our gasoline truck equipment will have a material effect in cutting down the number of traffic jams frequently caused by gasoline trucks which must back in to the curb in order to discharge, and also that they will do much toward minimizing fire hazards. The changes are three in number. In the first place, the position of the faucets is changed from the rear to the side. Thus the truck may be parked parallel to the curb instead of at right angles or diagonal to it, and will not impede traffic. Furthermore, statistics show that the greater number of accidents to tank trucks involve rear-end collisions. With the faucets at the side, they are less likely to be damaged, and consequently the danger of fire is lessened.

"Secondly, Granberg meters are being installed on the faucets, with the result that delivery is materially speeded up. Where buckets must be used for delivery, they may be filled to any level instead of carefully to a certain mark, and where hose is used the need of tank gauging is eliminated. Third, the internal valve is being installed by Associated, in common with other members of the American Petroleum Institute. This device, accepted by Associated as the future standard, cuts off the gasoline in case of injury to the faucets, insuring less fire hazard and preventing loss of the tank contents.

"The changes are the outcome of tests which have been carried on for nearly two years by the company, and which it is felt will set a standard soon to be adopted universally in the industry."

PRICES NOT EXCESSIVE

In a progress report made at a special session of the Wyoming legislature a committee appointed by Governor Emerson reported that retail gasoline prices in Wyoming were not out of line with those prevailing in adjoining states. The committee was appointed early in the year following a resolution by the state legislature.

The preliminary report which was voluminous stated that there was no definite proof of collusion regarding gasoline prices between refiners and marketing organizations. The report included statements by a large number of refiners, wholesalers and dealers in the State. The committee is composed of W. H. Edelman, state treasurer; Roscoe H. Alcorn, state auditor, and James A. Greenwood, deputy attorney general.

Complete Directory Showing Facilities At Fueling Points

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Jan. 11.—For the first time in the history of petroleum the American oil industry is now in possession of a complete list of oil bunkering stations of the world, which it is believed will be the most important aid in the exportation of petroleum and its products that has ever been available.

This report, entitled "Foreign Bunkering Stations," was prepared in the transportation division, Bureau of Foreign and Domestic Commerce, Department of Commerce, in co-operation with the Bureau of Operations of the United States Shipping Board. The information contained in this report has been gathered by the United States Consular Service, which has long been engaged in this work. In addition to this original compilation, consular offices abroad have been instructed to keep the department currently informed on all pertinent information of this kind.

Additional information, taken from these consular reports, is on file at the department, available to American exporters of petroleum. Fuel prices at any oil bunkering station of the world may be obtained from the Department of Commerce, this information not being included in the report because of its fluctuating nature.

The report names the operator and nationality at each bunkering station, together with his code address and the code he uses. Under the head of tankage is given the kind of oil, the number of tanks and the capacity of these tanks. The normal supply kept on hand is stated. The berthage and depth of water, method of delivery and the source of supply together with informative remarks. It is now a simple matter for any exporter, with this report at hand, to have all of this detailed valuable information relating to every fuel oil bunkering station of the world.

This report was prepared by the foreign port section of the Shipping Board, at the head of which is E. P. Cotter, his assistant being R. I. Schneider, the compilation being by Ernest H. Adamitz of the same section.

GASOLINE TAX COSTS $15.75 PER VEHICLE

NEW YORK, Jan. 11.—Preliminary figures covering the automotive industry in 1929, made public today by the National Automobile Chamber of Commerce, indicate that gasoline taxes last year averaged $15.75 per motor vehicle, $138 per mile of road and $628.75 per mile of surfaced highway. The chamber estimates the total tax paid on gasoline consumed by the 26,400,000 motor vehicles registered last year as $415,000,000.

Increase in motor vehicle registration for 1929 amounts to 8 per cent, or 1,650,000 machines, while the increase in the gasoline tax is over 35 per cent, or $110,000,000. The figures show an increase of 45,000 miles in surfaced highways and of 2,697 miles in total road mileage.

The chamber estimates the total number of gasoline filling stations in this country at 320,000 and the total of gasoline pumps in use at 610,000. This would place gasoline tax collections per filling station, the levy being collected for the state by the oil companies, at slightly under $1,300 each. Collections per pump were approximately $680.

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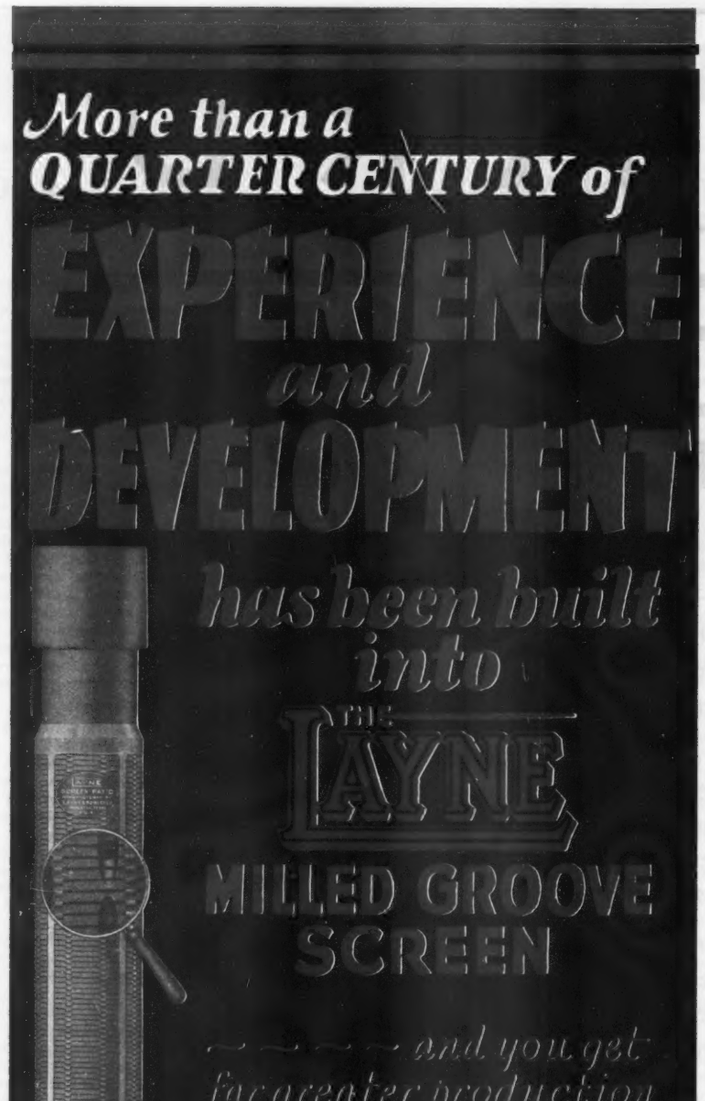

OUTLINE METHOD OF MAKING COMPLAINTS

(Continued from Page 146)

by witnesses interviewed by the examiners, are reviewed and passed on to the commission with a detailed summary of the facts developed, an opinion based on the facts and the law, and the board's recommendation.

Board Recommendations

The board may recommend: (1) Dismissal of the application for lack of evidence in support of the charge or on the grounds that the charge indicated does not violate any law over which the commission has jurisdiction, or (2) dismissal of the application upon the signing by the proposed respondent of a stipulation of the facts and an agreement to cease and desist the unlawful practice charged, and (3) issuance of a complaint without further procedure.

Usually if the board believes that complaint should issue it grants the proposed respondent a hearing. Such hearing is informal, involving no taking of testimony.

The foregoing procedure is applied to all cases except those involving false and misleading advertising, the preliminary investigations of which are conducted by a special board of investigation recently installed for that purpose.

Up to the present point the procedure is informal and for the purpose of furnishing information to the commission. Nothing in regard to a case in the application stage is ever given out or made public. This is done for protection of the proposed respondent against whom a formal complaint has not been served.

In cases that have been stipulated prior to issuance of formal complaint the name of the respondent is not revealed although the commission issues a publicity release setting forth only the facts for the information of the public and benefit of the industry involved.

Issuing Complaints

Only after most careful scrutiny does the commission issue a complaint. Unlike the preliminary inquiries and application for complaint, which are informal, the complaint and the answer of respondent thereto are a public record.

A complaint is issued in the name of the commission in the public interest. It names a respondent and charges a violation of law, with a statement of the charges. The party first complaining to the commission is not a party to the complaint when issued by the commission; nor does the complaint seek to adjust matters between parties. It is to prevent unfair methods of competition for the protection of the public.

The commission's rules of practice and procedure provide that in case the respondent desires to contest the proceedings he shall, within 30 days from service of the complaint, unless such time be extended by order of the commission, file with the commission an answer to the complaint. The rules of practice also specify a form of answer for use should the respondent decide to waive hearing on the charges.

Filing Answers

Failure to file an answer within the time specified "shall be deemed to be an admission of all allegations of the complaint and to authorize the commission to find them to be true and to waive hearing on the charges set forth in the complaint."

In a contested case the matter is set down for taking of testimony before a trial examiner. This may occupy varying lengths of time according to the seriousness of the charge or the availability and number of witnesses to be examined. Hearings may be held before a commission trial examiner, who may sit in various parts of the country, the commission and the respondent each being represented by its own attorneys.

After the taking of testimony and the submission of evidence on behalf of the commission in support of the complaint, and on behalf of the respondent, the trial examiner prepares a report of the facts for the information of the commission, counsel for the commission, and counsel for the respondent. Exceptions to the trial examiner's report may be taken by either counsel for the commission or counsel for the respondent and if no exceptions are filed the trial examiner's findings of fact are accepted by the commission as final.

Final Arguments Heard

Within a stated time after receipt of the trial examiner's report briefs are filed and the case comes on for final argument before the full commission. Thereafter the commission reaches a decision either sustaining the charges of the commission or dismissing the complaint.

If the complaint is sustained, the commission makes a report in which it states its findings as to the facts and conclusion that the law has been violated, and thereupon an order is issued requiring the respondent to cease and desist from such practices.

If the complaint is dismissed, an order of dismissal is entered.

These orders are the final functions of the commission as far as its own procedure is concerned. No direct penalty is attached to an order to cease and desist, but a respondent against whom it is directed is required within a specified time, usually 60 days, to report in writing the manner in which he is complying with the order. If he fails or neglects to obey an order while it is in effect, the commission may apply to a United States circuit court of appeals for enforcement. A respondent likewise may apply to such court of appeals for review of the commission's order, and these proceedings may be carried by either party on certiorari to the Supreme Court of the United States for final determination.

The same procedure applies under the Clayton Act as under the Federal Trade Commission Act. Preliminary investigations are frequently begun by the commission on its own initiative with reference to possible violation of Section 7 of the Clayton Act. This section prohibits acquisition of stock in a competing company when the effect may be to substantially lessen competition between the company obtaining the stock and the company disposing of it.

The trade practice conference procedure performs the same function as a formal complaint but in an entirely different manner.

Export Associations

Export trade associations formed under the export trade act to compete in foreign markets on an equal basis with foreign combines are granted exemption from the antitrust laws as long as they do not restrain trade in the domestic field. These associations file with the Federal Trade Commission copies of their organization papers and furnish other required information.

Work of the division consists largely in ascertaining and interpreting facts relating to the organization, conduct and results of commercial enterprises, and in recommending constructive or remedial legislative action.

CHARTERED IN TEXAS

The Mintex Oil Co. of San Angelo, Tex., has been granted a charter by the State of Texas, with capital stock of $50,000. The incorporators are: Dr. Hugh H. Tucker, William Gruber and Orville Norton, all of San Angelo. The company has one test drilling in Scurry county, under the name of Camp Springs Drilling Co. Dr. Tucker is a Texas geologist, Mr. Gruber is manager of the Concho Tool & Supply Co. at San Angelo and Mr. Norton is an independent operator. Another oil firm granted a charter by the State of Texas is the Medina Oil & Gas Co. of Abilene.

A. W. CARNAHAN DEAD

OIL CITY, Pa., Jan. 11.—A. W. Carnahan, veteran of the Civil war, who entered the oil business in 1865 at Pit Hole and later became a producer, continuing in that business until his 80th year, died at his home here recently.

CANADIAN FIELDS

(Continued from Page 74)

which depth circulation was lost for rotary equipment. The test will not likely resume till early spring. Bethwain Oils' No. 1, Section 6-45-6w4, which is in the lime at 2,485 feet, will also drill deeper with cable tools.

Bethwain Oils' No. 2, Section 4-45-6w4, is coring close to the sand at 2,140 feet, the sand being looked for around 2,248 feet. Peninsular Petroleums' No. 1, LSD 16, Section 30-45-6w4, is rigged up with gas line complete and ready to spud in. Onalta Oils' No. 1, LSD 8, Section 20-45-6w4, is drilling near 1,200 feet, with 13-inch casing following the drill.

In Section 12-47-5w4, Weymarn Petroleums, Ltd., is deepening structure test holes preparatory to making final location for its commercial test, which will probably be started when Paul von Weymarn returns from Norway in February.

In the Kinsella Field, Duluth Syndicate's No. 1, LSD 8, Section 29-48-10w4, which got a large gas production at 2,085 feet, is cementing. When this is done, work will probably be discontinued till spring, when No. 2 test will be started. It is planned to use No. 1's gas production for drilling operations.

In the Pigeon Lake district near Wetaskiwin, Premier Drilling Co. of Edmonton is preparing to drill as soon as weather moderates. Some years ago a test was started in this area by Mutual Oil & Gas Co. and later carried by the Globe Drilling Co. to a depth of 600 feet. It is understood the Premier Drilling Co. has derrick up and equipment on the ground for an entirely new test.

In the Wainwright Field, Maple Leaf Oil & Gas Co. supplying gas from two producing wells to the Wainwright Gas Co. for distribution in the town of Wainwright, has paid an initial dividend of 6 per cent on preferred stock. This is the first dividend to be paid from actual prodction in the Wainwright Field.

Turner Valley Field

In the Turner Valley Field, fire and storm wrought considerable havoc among the derricks. McLeod Oil Co.'s No. 3, LSD 16, Section 1-20-3w5, while fishing for lost tools blew back unexpectedly into production and caught fire from sparks. The fire was extinguished by steam a few hours later and by morning the hole had bridged again, shutting off the flow. Midfield Oil Co.'s No. 1, LSD 9, same section, caught fire from a broken light bulb, completely destroying the derrick and dropping tools in the hole. The test was 3,752 feet. Derrick will be moved from No. 2 and fishing started.

A heavy wind storm wrecked or damaged five derricks. The string included Illinois-Alberta's No. 3, LSD 14, Section 12-20-3w5, in the central field and in the South Turner Valley Commonwealth Petroleums' No. 3, Section 9-19-2w5; Freehold Oil Corp's No. 3, LSD 8, Section 20-19-2w5, and Vanberta Oils' No. 2, LSD 5, Section 34-18-2w5. None of these tests had yet started drilling. Home Oil Co.'s No. 3 producer, LSD 10, Section 20-19-2w5, was also wrecked, and the well blew wild for several hours, till a new valve could be adjusted and the flow returned to the separator.

In the Central Turner Valley, British Dominion Oil Development Corp's No. 2, LSD 6, Section 12-20-3w5, testing at 5,177 feet, or 113 feet in the lime, showed a maximum crude naphtha recovery of 109 bbls. without back pressure. It is thought pressure will bring the recovery to 130 bbls. Production is being delivered to Imperial Oil, Ltd. pipe lines, but drilling may be carried an additional 50 feet into the lime for larger production. Some light crude is also being recovered by bradenhead control between the 8½ and 6¼-inch casing.

In the South Turner Valley, several wells are testing the Dalhousie sand horizon before drilling to the lime. Commonwealth Petroleums' No. 2, LSD 7, Section 9-19-2w5, was partially bailed but failing to develop a commercial gas flow is being shot in the Dalhousie. Alberta Pacific Consolidated's No. 2, LSD 5, Section 20-19-2w5, has been cemented back and is now being drilled out cement for a Dalhousie test. Mercury Oils' No. 3, LSD 2, Section 4-19-2w5, is testing in this horizon after drilling to the bottom of the sand at 4,770 feet; and Mercury's No. 2, LSD 12, is at 4,270 feet and drilling out cement preparatory to a Dalhousi test.

Imperial Operations

In the South Turner Valley, Sterling Pacific Oil Co.'s No. 1, LSD 15, Section 33-18-2w5, is cleaned out to bottom at 5,415 feet and preparing to drill deeper into the lime after an unsuccessful production test. At this depth it is 262 feet in the lime. The test showed some gas, but not sufficient to justify putting the well on steady production. Mayland Oil Co.'s No. 1, LSD 10, Section 17-19-2w5, is drilling at 6,137 feet, 696 feet in the lime. Foothills Oil & Gas Co.'s No. 3 (Southwest Petroleum) LSD 16, Section 8-19-2w5, is at 5,915 feet and cleaned out to 5,753, preparatory to resuming drilling. Home Oil Co's No. 4, LSD 14, Section 20-19-2w5, is standing cemented in the lime at 5,444 feet.

Mayland Oil Co.'s No. 2, LSD 8, Section 17-19-2w5, got a dry gas flow, estimated 8,000,000 feet a day, in the New Home sands at 3,940 feet and has installed control head to drill against the pressure. Mayland's No. 3, same section, is at 4,023 feet and drilling. Home Oil Co.'s No. 5, LSD 7, Section 20-19-2w5, is at 3,745 feet and drilling; and Home's No. 6, Section 4-19-2w5, is drilling at 730 feet. Baltac Oil's No. 1, LSD 13, Section 20-19-2w5, is drilling at 5,347 feet. Hargal Oils' No. 1, same section, is standing cemented at 4,730 feet. Northwest-Associated's No. 2, LSD 6, Section 20-19-2w5, is at 2,163 feet and drilling.

Lowery Petroleums' No. 1 NW Section 17-19-2w5, is drilling at 4,941 feet. Advance Oil Co.'s No. 5-A, LSD 16, Section 19-19-2w5, is at 3,761 feet and drilling. Southern Lewery's No. 1, LSD 3, Section 9-19-2w5, is drilling at 554 feet. Royalite Oil Co.'s No. 24, earlier listed as No. 25, Section 29-19-2w5, is reported rigging up.

In the central Turner Valley, Royalite Oil Co.'s No. 16, LSD 2, Section 12-20-3w5, is resuming drilling after an unsatisfactory test of the lower gas horizon 1,289 feet in the lime at 6,000 feet depth. Royalite's No. 12, LSD 3, Section 13-20-3w5, is in the lime at 5,419 feet and waiting for diamond drill. Royalite's No. 14, LSD 4, Section 7-20-2w4, is at 3,717 feet and reaming at 3,699. Royalite's No. 7, LSD 3, Section 13-20-3w5, is cleaned out to bottom at 4,208 feet preparatory to deepening. Royalite's No. 19, LSD 5, Section 6-20-2w5, is at 4,623 feet and circulating at 4,200. Royalite's No. 21, LSD 1, Section 13-20-3w5, is at 4,872 feet and drilling 564 feet in the lime. Royalite's No. 23, NW Section 31-19-2w5, is drilling 269 feet in the lime at 5,089 feet depth.

Dalhousie Oil Co.'s No. 7, LSD 11, Section 18-20-2w5, is making new hole at 4,473 feet after replacing burned derrick and recovering tools.

South Turner Valley

In the South Turner Valley, East Crest Oil Co.'s No. 1, LSD 5-6, Section 16-19-2w5, is 100 feet in the lime at 4,412 feet and fishing, with a wet gas flow estimated 8,000,000 feet a day. The test is waiting for special fishing tools to recover a bucket and 500 feet of twisted drill rods. East Crest's No. 2, LSD 4, is cleaning at 3,208 feet.

Wellington Oils' No. 1, LSD 1, Section 20-19-2w5, is drilling out cement in the top of the lime at 4,660 feet. Alberta Pacific Consolidated's No. 1, LSD 5, same section, is working on casing at 5,121 feet. Calmont Oils' No. 2, LSD 11, Section 20-19-2w5, is making new hole around 4,003 feet. Calmont's No. 4, same LSD, is reported resuming at 3,840 feet. Calmot's No. 7 is drilling at 2,278 feet, and No. 8 at 715 feet. Freehold's Oil Corp's No. 2, LSD 8, is at 4,130 feet and underreaming for 10-inch casing; No. 3 is working on new derrick and No. 4 will be started within a few weeks.

Homestead Oils' No. 1, LSD 5, Section 16-19-2w5, is at 3,985 feet and drilling out cement after setting 10-inch. Miracle Oils' No. 1, LSD 11, Section 4-19-2w5, is resuming after a fishing job at 3,740 feet. Mill City Petroleums' No. 1 LSD 14, is drilling into the Home sands

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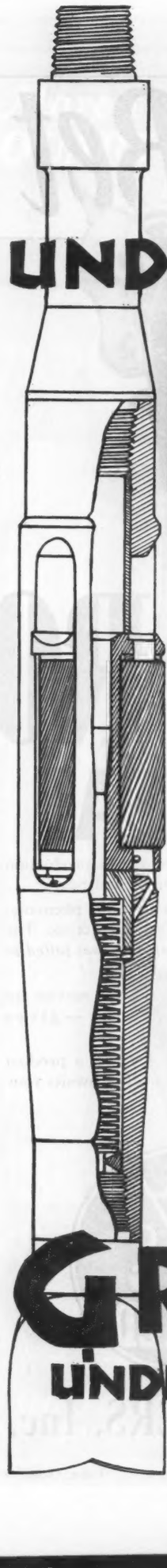

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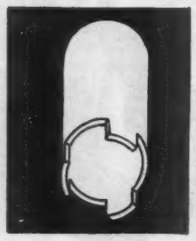

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around 4,090 feet, and expects the lime around 4,600.

Central Turner Valley

In the Central Turner Valley, McLeod Oil Co.'s No. 5, LSD 15, Section 1-20-3w5, is down 2,155 feet and running 16-inch casing. Calmont's Oils No. 1, LSD 2, same section, is mixing rotary mud preparatory to resuming drilling at 5,300 feet. Freeman Lundy Syndicate's No. 1, LSD 10, is drilling at 7,786 feet. Okalta Oils' No. 2, LSD 8, is drilling at 4,453 feet and Okalta's No. 3, LSD 9, at 3,206.

New McDougall-Segur Oil Co.'s No. 3, LSD 14, Section 12-20-3w5, is reported fishing at 3,937 feet; and No. 4 is underreaming and carrying 10-inch casing at 3,270 feet. Structure Oil & Gas' No. 1, LSD 7, Section 31-19-2w5, is drilling at 2,512 feet.

North Turner Valley

In the North Turner Valley, Model Oils' No. 1, LSD 8, Section 22-20-3w5, is at 5,560 feet and drilling in the poker-chip shales overlying the lime. Dome Oils' No. 1, Section 24-20-3w5, is drilling at 5,342 feet. Anaconda Oils Co.'s No. 1, LSD 16, Section 22-20-3w5, has been held up by caving, and is underreaming to lower 16-inch casing to 2,000 feet. Turner Basin Oils' No. 3, LSD 2, Section 27-20-3w5, is at 3,565 feet, drilling and carrying 10-inch casing. Invader Oils' No. 1, LSD 10, Section 9-21-3w5, is at 3,945 feet and running casing. On the New Black Diamond structure, Weymarn Petroleums' No. 1, LSD 1, Section 3-20-3w5, is at 3,492 feet and fishing.

Contract has been let by Coast-to-Coast Oil Holdings, Ltd., for a test to be drilled by Corporation Petroleum, Ltd., in LSD 6, Section 10-20-3w5, to be started before spring. This location is in a previously untested section about 2½ miles west of the central producing area of the Turner Valley, and north and west of Weymarn Petroleums' No. 1.

Drilling in Foothills

On the Highwood-Sinclair structure, southwest of Calgary, Hudson's Bay Oil & Gas Co.'s No. 1 Highwood, LSD 8, Section 1-18-3w5, is at 1,240 feet and running 12-inch casing. Northwest-C. & E.'s No. 1, LSD 8, Section 35-18-3w5, is at 781 feet and running 15½-inch casing. Warner Oils' No. 3, LSD 3, Section 28-18-3w5, is again drilling at 935 feet. Western Alberta Oil Co.'s No. 1, LSD 11, Section 7-17-2w5, resumed drilling in a hard formation at 2,930 feet after encountering some small shows of gas and oil. Reports of large showings in this well are officially denied. The lime is looked for around 3,200 feet. Banner Oils' No. 1, LSD 6, Section 34-17-3w5, is at 570 feet and drilling.

In the Morley Reserve area, Wabash Oils' No. 1 is resuming at 2,985 feet after a temporary shutdown. The other tests on this structure are all shut down. In the Moose Mountain district, Signal Hill Oil Co.'s No. 2, LSD 9, Section 34-23-5w5, is drilling at 3,708 feet. Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is drilling at 3,039 feet.

On the Moose Dome, Moose Oils' No. 1, LSD 16, Section 29-22-6w5, is reported at 1,709 feet and drilling. Gas flows have been encountered at frequent intervals in this test, every 100 feet or so, probably the largest individual flow being 2,000,000 feet at 1,160 feet depth. Some 30 feet below this a small flow was encountered which would not burn, apparently nitrogen. Most of the flows were cemented off before drilling deeper, as main production is looked for around 2,500 feet.

On the Herron structure, Herron Petroleums' No. 1, Section 13-22-6w5, recently resumed at 968 feet after a fishing job, and is now reported around 1,003 feet.

On the Waite Valley structure, Richfield Petroleum's No. 1, Section 35-20-3w5, has erected 129-foot steel derrick. The test, interrupted by fire, will resume around 3,700 feet. Calgary Development & Production Co.'s No. 1, LSD 10, Section 21-19-3w5, is at 2,035 feet and underreaming. Anglo-Pacific Oils' No. 1, LSD 4, Section 27-19-3w5, is shut down at 675 feet. Brock Petroleums' No. 1, LSD 2, Section 35-21-4w5, is drilling at 3,213 feet. Angus Oils' No. 1, LSD 5, Section 3-21-4w5, is at 1,464 feet and drilling. Gibraltar Oils' No. 1, LSD 4, Section 18-20-3w5, is at 975 feet and drilling. Innerfold Oils' No. 1, LSD 2, Section 6-20-3w5, is drilling at 2,535 feet.

On the Pincher Creek structure near the Montana boundary, Weymarn Petroleums' No. 2, LSD 5, Section 7-6-1w5, has spudded in and is drilling below 200 feet. In the High River-Aldersyde area, south of Calgary, Twin Dome Oils' No. 1, LSD 10, Section 16-21-28w4, is reported drilling at 1,302 feet.

Border Fields

After a shutdown due to weather conditions and the holiday season, there has been some resumption of activity in the Red Coulee Field west of Coutts. Monalta Oil Co.'s No. 2, on the Montana side, is reported drilling into the sand. Mid-Continent Oil Co.'s No. 1, NE, Section 2-37-4w, is resuming after cementing on top of the sand around 2,250 feet. Cosmos Oil Co.'s Hannah-Porter well is drilling below 2,000 feet.

On the Canadian end of the structure, Vanalta Oils' No. 1 producer is reported again on the pump. Vanalta's No. 2, LSD 3, Section 4-1-16w4, resumed drilling around 600 feet with the first casing set. Ko-Top Oils' No. 1, Section 2-1-17w4, is drilling open hole at 1,650 feet but planning to lower 10-inch casing to 1,800 feet, just above the sand. Further shows of oil and gas have been met.

In the Milk River district, Commonwealth Petroleums' No. 1, LSD 9, Section 9-3-15w4, is drilling in the lime around 3,200 feet. Capitol Oil & Gas Co.'s No. 1-A, LSD 16, Section 32-1-12w4, is cleaning out at 2,750 feet.

In the Lomond district, Hudson's Bay Oil & Gas Co.'s No. 2 Lomond, Section 23-17-18w4, is temporarily shut down around 925 feet.

In the Taber district, Cole-English Syndicate's Taber No. 1, LSD 3, Section 11-10-17w4, is reported drilling below 3,000 feet.

The Despo area in the Milk River district is to be tested next spring by Dalco Oil & Gas Co. of Calgary under arrangement with the Canadian Western Natural Gas, Light, Heat & Power Co., which holds the acreage and has already conducted extensive structure tests. The Dalco development program calls for at least four commercial tests next spring, and for taking over and testing some 26,192 acres in this area. The structure has been geologized by S. E. Slipper, chief geologist of the Canadian Western. The northern section, about 6,400 acres, indicates the Vanalta sand at 3,090 feet, the Ellis at 3,230 feet and the Madison lime at 3,330 feet. The southern group of holdings will likely get the Vanalta sand at 2,850 feet, the Ellis at 3,050 feet, and the Madison a little lower. The Dalco company also holds 440 acres on the Red Coulee structure within 1½ miles of Vanalta's No. 1 discovery. The agreement with the Canadian Western calls for the commencement of one well before April 1, 1930, and starting of one well every two months till four tests are drilling simultaneously; each test to be drilled at least 4,000 feet. The Canadian Western company also has an option to purchase 600,000 shares of the Dalco company after completion of any or all of the wells. The Dalco Oil & Gas Co. is backed by interests associated with Calmont Oils, Ltd., of Calgary, and headed by J. C. Dallas.

Spring Coulee Structure

New development work will also be started in the spring by Alberta Pacific Consolidated, Ltd., of Calgary, on the Spring Coulee structure south of Lethbridge. The Alberta Pacific Consolidated interests have a half interest in 15,000 acres, understood to have been geologized by the Canadian Exploration Co. of Denver. A geological report describes the structure as follows:

"The structure extends in a northwest-southeast direction from a point about 5 miles north of St. Mary's River on the Blood Indian Reservation through the town of Spring Coulee to a point about 6 miles southeast of this town. It is crossed by the St. Mary River and the Stirling-Cardston branch of the Canadian

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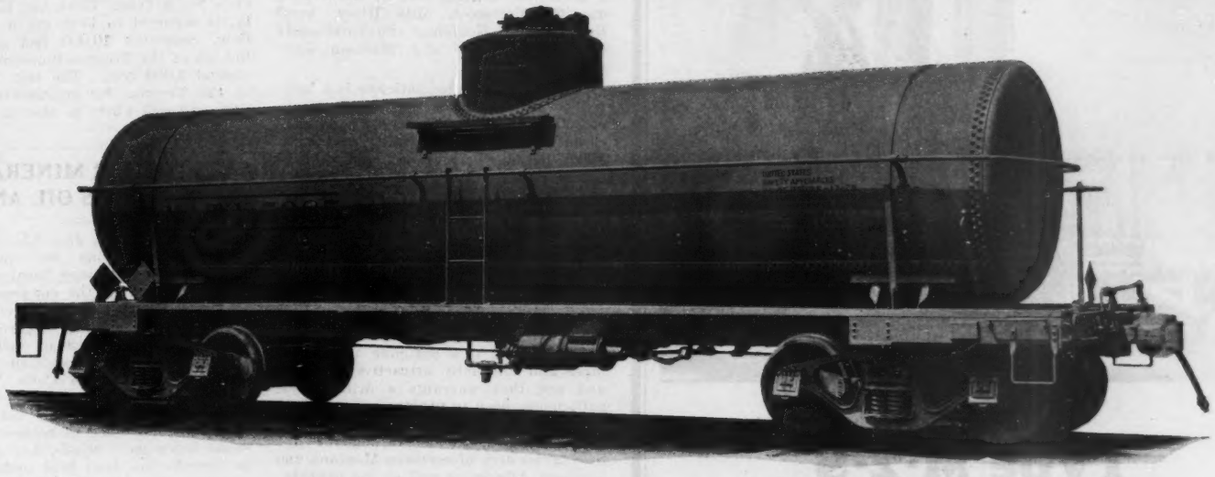

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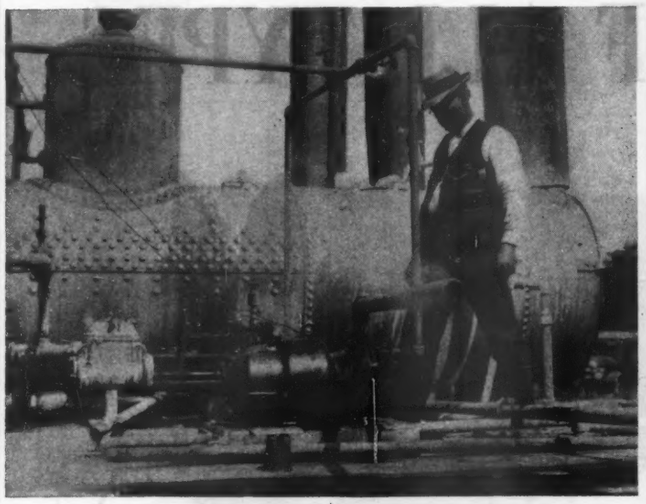

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Pacific Railroad. The structure is in an open plains country more or less covered by glacial drift. The formations that occupy the surface along the principal stream courses and underlie the structure range from the basal Edmonton to the Madison limestone. The objective horizons, all of which can be reached by a maximum drilling test of 5,000 feet, are the Foremost, Milk River, basal Benton, basal Kootenay (Sunburst sand) Fernie sandstones and Madison limestone.

"The Spring Coulee anticline is a large well-formed structure having a closure of 300 to 400 feet. The crest of the anticline is exposed in the valley of the St. Mary River where it exhibits a broad gentle arch with dips ranging from 1 to 2½ degrees on the west and from 2½ to 5 degrees on the east limbs. The general trend of Spring Coulee anticline is roughly parallel to the front range of the Canadian Rockies, and the strike of the Alberta geosyncline. There is evidence that the structure has been influenced by both overthrust to the west and the Sweetgrass uplift to the southeast. It is believed this anticline presents a large and unusually attractive prospect, and one that warrants a drilling test sufficiently deep to penetrate the various oil and gas-bearing horizons now proven by commercial fields throughout the Sweetgrass arch of northern Montana and southern Alberta as well as the naphtha-bearing Royalite sand of the Turner Valley Field."

In the Chin Coulee district, Chinalta Petroleum's No. 1 (formerly Lethalta Oils' No. 1), LSD 5, Section 33-8-18w4, is preparing to resume with cable tools at 2,300 feet as soon as the weather moderates.

On the Cypress Hills structure, southeastern Alberta, Eagle Butte Oil Co.'s No. 2, Section 30-7-3w4, is reported rigged up but not likely to spud in till spring.

Turner Valley Production

Official figures covering Turner Valley production for December, 1929, show a total of 90,625 bbls., compared with 99,369 bbls. in November. The peak monthly production was attained in October, with 102,466 bbls. for the month.

Detail figures show deliveries to Imperial Oil, Ltd., in December to have aggregated 66,023 bbls. of crude naphtha and 9,643 bbls. of light crude; while total deliveries to Regal Oil Refineries, Ltd., reached 14,959 bbls.

Among the individual producing wells, Home Oil Co.'s No. 3 led with 16,345 bbls. for the month, a daily average of 527 bbls. Home's No. 2, with 7,600 bbls., was second, an average of 245 bbls. a day, and Northwest-Associated's No. 1 stood third with 7,380 bbls. Home's No. 1, at one time the largest producer in the field, dropped to 5,100 bbls. for the month, around 165 bbls. a day. Besides the crude naphtha Home's Nos. 1 and 2 each had a light crude production around 12 to 14 bbls. a day. Royalite's No. 4, for many years the outstanding producer in the Turner Valley, staged a slight come-back, making 1,927 bbls. for the month, or 62 bbls. a day.

Wells making 100 bbls. a day or over included Royalite's No. 6, with 5,510 bbls.; Royalite's No. 8, with 5,269 bbls.; Royalite's No. 17, with 6,802 bbls.; Royalite's No. 18, with 3,829 bbls.; Okalta's No. 1, with 5,695 bbls.; and the McLeod group of wells, with 4,076 bbls. Widney Petroleum's No. 1, light crude producer, made 3,010 bbls. for the month. New producers were Sioux City Oil Co.'s No. 1, with an incidental production while drilling of 217 bbls.; and Merland Oil Co.'s No. 1, the new producer in the south end of the valley, which delivered 271 bbls. in the last few days of December.

In the central Turner Valley, Spooner Oils' No. 1, LSD 12, Section 13-20-3w5, has drilled out a bridge and brought back a normal production of 50 bbls. a day in the deep lime. Location is being made for Spooner's No. 4.

In South Turner Valley, Merland Oil Co.'s No. 1, LSD 13, Section 34-18-2w5, will be deepened to the lime horizon. This test blew in recently in the Dalhousie sands at 4,470 feet with 14,000,000 feet of wet gas and an estimated recovery of 100 bbls. of 78.9 gravity naphtha.

In southeastern British Columbia, Akamina Valley Oil Co. is unloading drilling material for a test in the Akamina Valley, near Waterton National Park.

In the Ontario fields, Acme Gas & Oil Co.'s No. 2, Dover Township, Kent County, is reported to have got a small gas flow, estimated 10,000 feet a day, in the top of the Trenton limestone, entered around 2,900 feet. The test is drilling in the Trenton for commercial production, and will likely be shot in the main gas horizon.

SAYS "OTHER MINERALS" INCLUDES OIL AND GAS

DENVER, Colo., Jan. 13.—An action in equity involving the question of whether thhe language "coal and other minerals" used in the congressional act of December 29, 1916, reserving to the United States minerals underlying lands embraced in a homestead entry applied to oil and gas was dismissed by United States District Judge Colin Neblett at Santa Fe, N. M., on motion of defendants. The suit involved not only an issue of importance to holders of homestead lands as a whole, but disposition of valuable oil land held under a prospecting permit by The Texas Company through a subsidiary, the Texas Production Co., in Lea County, southeastern New Mexico.

The action of Ivan L. Skeen vs. Beulah V. Lynch, The Texas Company, and others, was brought in the district court in Lea County and removed to the federal court. Skeen made a homestead filing on 640 acres of government land in Lea County in 1924. Mrs. Lynch was granted a permit by the Secretary of the Interior to prospect the land for oil. The Texas Production Co. drilled a well on the Lynch permit in Section 34-20-34 and brought it in as a producer in March, 1929, the well making around 1,000 bbls. of 32 gravity oil per day and opening the Lea Pool. It was contended by Skeen in his suit to quiet title that the language "coal and other minerals" used in the act of December 29, 1916, did not reserve to the United States the oil and gas in the underlying lands embraced in the homestead entry. The court held that for the purpose of construing the purpose of the act that the government was not an indispensable party to the suit and that in his opinion the act did reserve the oil and gas to the government. He did not rule on the question of the plaintiff's preferential right to a permit. The case probably will be appealed.

ASKS SHARE OF ROYALTIES

The Texas Agriculture and Mechanical College directors will appear before the regents of the State University at Austin, January 20, 1930, and ask for a share of university oil royalties. The A. & M. College has requested such a share during previous years, but so far has not been granted such a division of the royalties.

J. F. ARCHBOLD DIES

THOMASVILLE, Ga., Jan. 11.—John Foster Archbold, 52 years old, New Yorker and winter resident of Thomasville for 20 years, died here of pneumonia after a short illness. Mr. Archbold, who resigned as president of the Prairie Oil & Gas Co. in 1909, after three years service, was the son of the late John D. Archbold, former head of the Standard Oil Co. of New Jersey.

DEATH OF H. L. MONROE

Harry L. Monroe, 60, commercial vice president of the General Electric Co., with headquarters in Chicago, died in Dallas, Tex., on January 7. Mr. Monroe completed 40 years of service with the company in September, 1928, six months after his election to the vice presidency.

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The top half shows the mill scale magnified 10 times.

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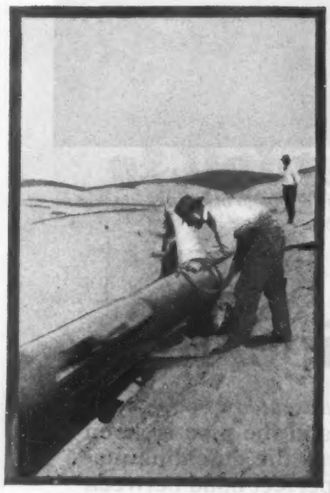

Air-gun application of electrolysis-proof coating in the field.

McEverlast Osnaburg wrap. Note how smoothly it fits over weld.

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On the job shown above—Kettleman Hills pipe line project of the Southern California Gas Co.—three men applied a McEverlast electrolysis-proof coating to 5600 lineal feet of 20-inch pipe line in one 9-hour day.

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VOLUNTARY CURTAILMENT IN NOVEMBER SAVED SITUATION

By James McIntyre

In the 12 months ending November 30, 1929, the oil fields of the United States produced 1,002,498,383 bbls. of crude petroleum. In the 12 months ending November 30, 1928, the country produced 892,903,686 bbls., a difference of 109,594,697 bbls. In the same period ending November 30, 1927, the production was 902,635,027 bbls.

The total for the 12 months ending November 30 of 1929 would have been much more had it not been for the curtailment movement throughout the year in West Texas, Oklahoma and California. A decline of 218,582 bbls. per day in the average production of the United States in November as compared with October, indicates how seriously the producers in a few flush fields viewed the approaching deluge of oil. Curtailment in California flush fields and in the Oklahoma City, Seminole and other flush fields in Oklahoma was largely responsible for the big decline in total output.

In October California averaged 867,586 bbls. and in November 710,585 bbls. a decline of 157,001 bbls. per day. Oklahoma fell off from 671,666 bbls. to 639,792 bbls. and Texas from 852,004 bbls. to 829,865 bbls. The decline in the three states totaled 211,114 bbls.

Folowing are the gross production figures for November:

SUMMARY OF UNITED STATES
Daily Average and Monthly Production in November, 1929

State—	Daily av. (Bbls.)	Month (Bbls.)
California	710,585	21,317,540
Oklahoma	639,792	19,193,760
Texas	829,865	24,895,950
Kansas	114,352	3,430,560
Arkansas	63,702	1,911,060
Louisiana	61,785	1,853,565
Montana	10,683	320,490
Wyoming	52,890	1,586,700
Colorado	5,461	163,830
New Mexico	9,303	279,090
Eastern Fields	134,300	4,029,000
Total November	2,632,718	78,981,540
Total October	2,851,300	88,390,346
Difference	218,582	9,408,806

MID-CONTINENT FIELD

	Daily av. (Bbls.)	Month (Bbls.)
Kansas	114,352	3,430,560
Oklahoma	639,792	19,193,760
North Texas	94,431	2,832,930
Central Texas	48,310	1,449,300
West Texas	347,045	10,411,381
Panhandle of Texas	98,737	2,962,110
East Central Texas	17,897	536,912
Arkansas	63,702	1,911,060
North Louisiana	38,240	1,147,200
Total November	1,462,506	43,875,213
Total October	1,519,454	47,103,140
Difference	56,948	3,227,927

GULF COAST AND SOUTHWEST TEXAS

	Daily av. (Bbls.)	Month (Bbls.)
Gulf Coast (Tex.-La.)	186,380	5,591,438
Southwest Texas	60,610	1,818,328
Total November	246,990	7,409,766
Total October	242,467	7,516,494
Difference	4,523	106,728

OKLAHOMA
Daily average and monthly production in November

County—	Daily av. (Bbls.)	Month (Bbls.)
Washington	5,192	155,760
Nowata	5,217	156,510
Rogers	2,310	69,300
Osage and eastern Kay Counties—		
Burbank	17,714	531,420
Osage, outside Burbank	26,687	800,610
Total	44,401	1,332,030
Tulsa and Wagoner Counties—		
Bird Creek, Owasso, etc.	3,467	104,010
Red Fork, Sand Springs, Bruner	1,162	34,860
Bixby, Leonard	915	27,450
Broken Arrow, Coweta	937	28,110
Total	6,481	194,430
Tulsa, Okmulgee and Muskogee Counties—		
Okmulgee and Beggs	2,360	70,800
Mounds	1,607	48,210
Bald Hill and Haskell	2,258	67,740
Morris, Boynton, Cole	1,999	59,970
Total	8,224	246,720
Okmulgee, Okfuskee, Seminole, Hughes and Pottawatomie Counties—		
Seminole City	25,972	779,160
East Seminole	4,687	140,610
Bowlegs	26,686	800,580
Little River	69,273	2,078,190
Earlsboro	63,562	1,906,860
Searight	9,820	294,600
Mission	15,858	475,740
Carr City	9,767	293,010
Maud	9,095	272,850
Total Seminole Field	234,720	7,041,600
Asher	4,461	133,830
Pearson-St. Louis	52,904	1,587,120
Sasakwa	10,198	305,940
Beebe	2,838	85,140
Henryetta, Deaner-Lyons, etc.	6,373	191,190
Wewoka	4,329	129,870
Cromwell	7,612	228,360
Papoose-Gilcrease	3,165	94,950
Jarvis-Holm	285	8,550
Weleetka	941	28,230
Wetumka	39	1,170
Yeager	425	12,750
Miscellaneous	979	29,370
Total	326,269	9,878,070
Creek and Tula Counties—		
Glen Pool, Jenks, Kiefer	5,713	171,390
Sapulpa and Fisher	595	17,850
Cushing, Shamrock	14,834	445,020
Bristow, Kellyville and Depew	14,437	433,110
Pickett Prairie and North Bristow	1,756	52,680
Eastern Bristow or Slick	5,513	165,390
Total	42,848	1,285,440
Pawnee County—		
Cleveland	2,717	81,510
Keystone	1,452	43,560
Jennings	3,250	97,500
Otoe	462	13,860
Ralston-Masham	157	4,710
Total	8,038	241,140
Payne County—		
Yale, Quay and Ingalls	3,968	119,040
North Cushing	2,883	86,490
South Cushing	308	9,240
Mehan-Ripley	885	26,550
Total	8,044	241,320
Oklahoma County—		
Oklahoma City	56,010	1,680,300
Lincoln County—		
Stroud	937	28,110
Davenport	1,692	50,760
Kendrick	251	7,530
Total	2,880	86,400
Kay, Grant and Noble Counties—		
Blackwell	1,128	33,840
Vernon	877	26,310
Otstot	803	24,090
Deer Creek	728	21,840
Ponca City	629	18,870
Mervine	241	7,230
Braman	3,689	110,670
Hubbard	1,670	50,100
Thomas	547	16,410
Garrett	36	1,080
Tonkawa	9,202	276,060
Billings	111	3,330
Miscellaneous	835	25,050
Total	20,496	614,880
Garfield County—		
Garber	4,617	138,510
Logan County—		
Lovell	804	24,120
Marshall	13,851	415,530
Total	14,655	439,650
Carter County—		
Healdton	12,520	375,600
Hewitt	7,754	232,620
Graham	2,933	87,990
Brock	587	17,610
Fox	2,313	69,390
Sholom Alechem	14,081	422,430
Total	40,188	1,205,640
Stephens and Cotton Counties—		
Loco-Milroy	1,545	46,350
Comanche	1,126	33,780
Duncan	5,121	153,630
Walters	2,483	74,490
Kilgore	368	11,040
Total	10,643	319,290
Jefferson County—		
Hambro, etc.	2,054	61,620
2s-6w	213	6,390
Total	2,267	68,010
Caddo County—		
Cement	1,470	44,100
Garvin County—		
Robberson	2,049	61,470
Grady County—		
Knox	3,387	101,610
Pontotoc County—		
Allen	20,757	622,710
Beckham County—		
Sayre	41	1,230
Marshall County—		
Madill	308	9,240
Total November	639,792	19,193,760
Total October	671,666	20,821,646

KANSAS
Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Marion County—		
Florence-Urschell	491	14,730

(Continued on next Page)

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does not affect pipe line volume when flow lines and tanks are heated by ELECTRICITY

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Fire is the most dreaded destroyer in the Oil Fields — and ELECTRICITY is the modern power that ELIMINATES fire hazards. With our three great generating stations, and fifteen auxiliary stations constantly on the job supplying an available capacity of 70,000 horsepower, to any location on our more than 2300 miles of high-lines; progressive oil operators are trying out—checking costs—and then changing to ELECTRICITY.

WEST TEXAS UTILITIES COMPANY
In the Land of Opportunity

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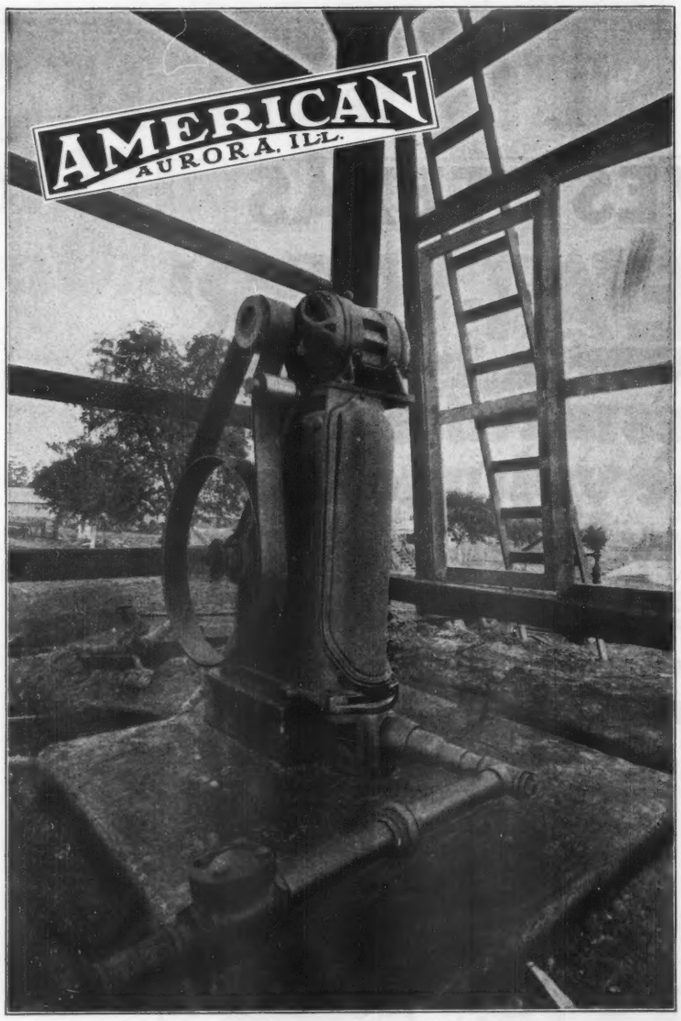

"American" Enclosed Power Heads for Water Wells

Illustrated above is an "American" totally enclosed power head for water service in connection with the oil wells of the Amerada Petroleum Corporation in the Seminole field. They are built for hard service, pipe line stations, tank farms, gasoline plants and refineries. They are made in various sizes to meet any usual well conditions.

These heads are designed for either motor or engine drive. The heads are totally enclosed and all moving parts are automatically oiled. They are sturdy machines that require the least possible attention. The removal of the cover permits ready access to the working parts, and permits rods to be pulled without disturbing pipe connections.

Complete catalogs and engineering information available upon request.

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THE AMERICAN WELL WORKS

General Offices AURORA, ILLINOIS *and Factory*

	Daily av. (Bbls.)	Month (Bbls.)
Peabody	1,419	42,570
Covert-Sellers	477	14,310
Lost Springs	640	19,200
Davis	921	27,630
Total	3,948	118,440
Butler County—		
Elbing	2,050	61,500
Potwin	367	11,010
Cameron-Robinson	857	25,710
Wilson-Dunkle	1,526	45,780
Towanda	2,012	60,360
Fox-Bush	951	28,530
Nuttle-Koogler	2,661	79,830
Eldorado	7,046	211,380
Smock	205	6,150
Leon-Weaver	4,831	144,930
North Augusta	853	25,590
South Augusta	1,181	35,430
Sluss	234	7,020
Douglass	108	3,240
Keighly	567	17,010
Benton	83	2,490
Blankenship	667	20,010
Total	26,199	785,970
Greenwood and Woodson Counties—		
Sallyards	1,030	30,900
Teter-Pixley-Scott	4,774	143,220
Virgil	5,772	173,160
Thrall-Burkett	1,328	39,840
Secley	7,866	235,980
Polhamus	766	22,980
Miscellaneous	848	25,440
Total	22,384	671,520
Cowley County—		
Rainbow Bend	1,202	36,060
Slick	443	13,290
Graham	259	7,770
Rock	163	4,890
Clark	155	4,650
Eastman	388	11,640
Winfield-New Salem	2,224	66,720
Miscellaneous	1,209	36,270
Total	6,043	181,290
Other Counties—		
Sumner	10,927	327,810
Rooks	76	2,280
Rice	763	22,890
Russell	3,943	118,290
Reno	19	570
Sedgwick	22,368	671,040
McPherson	3,935	118,050
Trego	17	510
Harvey	15	450
Coffey	274	8,220
Chautauqua	3,402	102,060
Elk	1,983	59,490
Wilson	177	5,310
Montgomery	1,311	39,330
Allen	526	15,780
Neosho	507	15,210
Lyon	1,003	30,090
Miami	988	29,640
Franklin	361	10,830
Douglas	21	630
Bourbon	15	450
Linn	177	5,310
Anderson	1,843	55,290
Labette	19	570
Chase	15	450
Woodson	1,093	32,790
Total November	114,352	3,430,560
Total October	110,628	3,429,468
Difference	3,724	1,092

WEST TEXAS
Daily Average and Monthly Production in November

Field and County—	Daily av. (Bbls.)	Month (Bbls.)
Big Lake, etc., Regan	16,877	506,319
Settles, Chalk, etc., Glasscock and Howard	41,077	1,232,324
Church & Fields, Crane	17,652	529,557
Connell-Penn, Ector	90	2,690
Hendricks, Winkler	104,172	3,125,150
Ira, Scurry	25	750
McCamey-Taylor, Upton	8,916	267,474
McElroy, Crane	14,551	436,531
Powell, Crockett	1,641	49,242
Stephens, Fisher	1,367	41,008
Waddell, Crane	39	1,182
Westbrook and Iatan, Mitchell	2,279	68,365
Wheat, Loving	822	24,660
Yates, etc., Pecos	135,890	4,076,713
Hazlett-O'Brien, etc., Ward	1,647	49,416
Total November	347,045	10,411,381
Total October	362,763	11,245,661
Difference	15,618	834,280

NORTH TEXAS
Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Burkburnett	9,292	278,760
Electra	11,441	343,230
Iowa Park-K.M.A.	4,588	137,640
Archer County	18,794	563,820
Clay County	896	26,880
Wilbarger County	28,887	866,610
Montague County	6,453	193,590
Young County	7,124	213,720
Baylor County	83	2,490
Cook County	6,707	201,210
Foard County	166	4,980
Total November	94,431	2,832,930
Total October	97,276	3,015,556
Difference	2,845	182,626

EAST CENTRAL TEXAS
Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Boggy Creek	3,303	99,087
Cedar Creek	74	2,220
Currie	397	11,898
Hill	50	1,500
Mexia	4,938	148,139
Minerva	600	18,000
Nigger Creek	230	6,903
Powell	6,778	203,349
Richland	284	8,535
Thrall	35	1,062
Van	261	7,821
Wortham	947	28,398
Total November	17,897	536,912
Total October	18,728	580,595
Decrease	831	43,683

CENTRAL TEXAS
Daily Average and Monthly Production in November

County—	Daily av. (Bbls.)	Month (Bbls.)
Coleman	6,699	200,970
Comanche	160	4,800
Stephens	5,475	164,250
Eastland	5,666	169,980
Brown	9,317	279,510
Callahan	3,612	108,360
Runnels	31	930
Throckmorton	642	19,260
Jack	4,016	120,480
Palo Pinto	535	16,050
Shackelford	9,361	280,830
Erath	246	7,380
Jones	2,462	73,860
Haskell	88	2,640
Total November	48,310	1,449,300
Total October	49,772	1,542,932
Difference	1,462	93,632

TEXAS PANHANDLE
Daily Average and Monthly Production in November

County—	Daily av. (Bbls.)	Month (Bbls.)
Hutchinson	27,050	811,500
Carson	9,906	297,180
Gray	60,474	1,814,220
Moore	711	21,330
Potter	13	390
Wheeler	583	17,490
Total November	98,737	2,962,110
Total October	104,598	3,242,538
Difference	5,771	280,428

NORTH LOUISIANA
Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Caddo, light	10,558	316,740
Caddo, heavy	3,027	90,810
Homer	3,719	111,570
Haynesville	4,836	145,080
DeSoto-Red River	2,917	87,510
Elm Grove	520	15,600
Bellevue	631	18,930
Cotton Valley	2,502	75,060
Urania	5,602	168,060
Pleasant Hill	1,017	30,510
Sarepta-Cartersville	723	21,690
Zwolle	2,188	65,640
Total November	38,240	1,147,200
Total October	39,507	1,224,717
Difference	1,267	77,517

ARKANSAS
Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
El Dorado	4,158	124,740
Smackover, light	5,639	169,170
Smackover, heavy	45,291	1,358,730
Stephens	1,008	30,240
Nevada County	1,054	31,620
Lisbon	1,155	34,650
Bradley	87	2,610
Champagnolle	5,310	159,300
Total November	63,702	1,911,060
Total October	64,517	2,000,027
Difference	815	88,967

GULF COAST FIELDS
Daily Average and Monthly Production in November
TEXAS

	Daily av. (Bbls.)	Month (Bbls.)
Allen	10	300
Barbers Hill	21,341	640,230
Batson	1,302	39,060
Big Creek	4,700	141,000
Blue Ridge	2,402	72,060
Brenham	158	4,752
Boling	1,337	40,117
Clay Creek	1,909	57,280
Damon Mound	496	14,879
DeWalt	12,601	378,030
Fannette	2,466	73,967
Goose Creek	5,480	164,393
Hankamer	570	17,109
High Island	1,660	49,806
Hull	10,139	304,154
Humble	16,967	508,997
Jasper County	36	1,085
Lost Lake	444	13,326
Markham	358	10,746
Nash	517	15,520
North Dayton	509	15,265
Orange	2,975	89,249
Orchard	87	2,609
Pierce Junction	11,720	351,584
Port Neches	1,188	35,652
Refugio	15,123	453,701
Raccoon Bend	8,770	263,097
Sheeks	344	10,317
Saratoga	973	29,188
Sour Lake	2,404	72,125
So. Liberty-So. Dayton	5,769	173,083
Spindletop	21,571	647,130
West Columbia	6,509	195,262
Total November	162,835	4,885,073
Total October	153,393	4,755,183
Increase	9,442	129,890

(Continued on next Page)

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OVER 11,000 producing wells feed the pipe lines leading to Pure Oil's large, modern refineries. Some of this crude is rich in gasoline content; some is valuable for making high grade motor oil; while some is best suited as a base for industrial oils or greases. But, because Pure Oil controls this vast production, it has a sure supply from which its experts select the cream of the crudes for refining each product.

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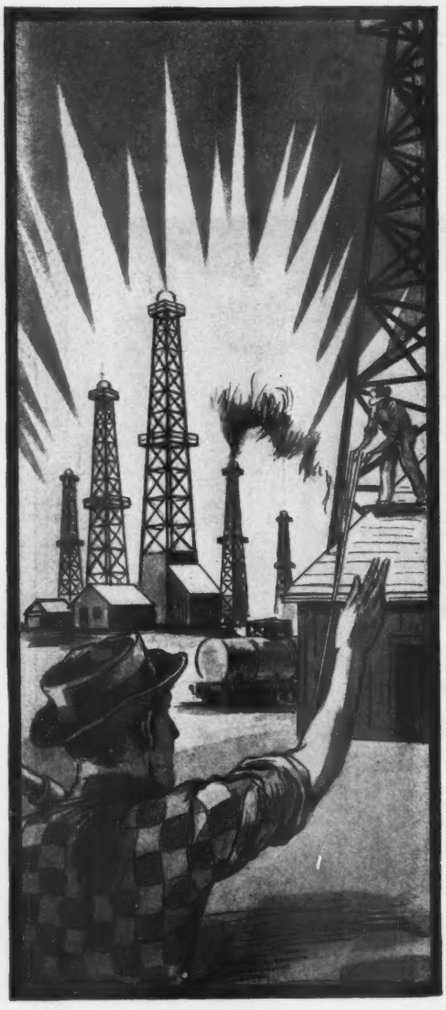

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A broken bit may mean expensive fishing—loss of time—labor and money.

But these problems are made less costly with ASCO Well Bit Tool Steel.

A bit made from ASCO Well Bit Tool Steel will challenge the toughest of rock formations—eat its way thru by steady drilling.

Where operating conditions are most severe, ASCO Well Bit Tool Steel is the most dependable.

THE ANDREWS STEEL CO.
NEWPORT ASCO KENTUCKY

SOUTH LOUISIANA

	Daily av. (Bbls.)	Month (Bbls.)
Anse La Butte	45	1,350
Bayou Blue	286	8,578
Bayou Bouillon	122	3,649
Black Bayou	373	11,176
Dog Lake	13	398
Edgerly	615	18,437
Jennings	1,547	46,419
Hackberry	4,670	140,088
Lake Barre	440	13,203
Lake Pelto	203	6,079
Lockport	3,558	106,734
New Iberia	23	705
Port Barre	286	8,595
Sorrento	39	1,185
Starks	389	11,672
Sulphur	6,168	185,050
Sweet Lake	17	512
Vinton	4,389	131,666
Welsh	213	6,398
White Castle	149	4,472
Total November	23,545	706,365
Total October	23,600	731,609
Decrease	55	25,244
Total Gulf Coast	186,380	5,591,438
Total October	176,993	5,486,792
Increase	9,387	104,646

SOUTHWEST TEXAS

Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Branyon	23	696
Bruner	33,854	1,015,622
Dale	484	14,509
Darst Creek	1,582	47,467
Kingsville	322	9,660
Larremore	145	4,358
Luling	10,229	306,865
Lytton Springs	905	27,147
McMullen County	38	1,143
Medina County	24	720
Mirando	10,052	301,567
Somerset	1,766	52,991
Yoast	1,186	35,580
Total November	60,610	1,818,328
Total October	65,473	2,029,702
Decrease	4,863	211,674

WYOMING

Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Big Muddy	2,145	64,350
Oregon Basin	4,602	138,060
Byron	....	.....
Dutton	36	1,080
Elk Basin	693	20,790
Ferris	33	990
Frannie	353	10,590
Grass Creek	2,122	63,660
Greybull	11	330
Hamilton	971	29,130
LaBarge	2,263	67,890
Lance Creek	172	5,160
Lost Soldier	3,243	97,290
Mule Creek	535	16,050
Osage	575	17,250
Poison Spider	903	27,090
Rock Creek	2,263	67,890
Rex Lake	104	3,120
Lander	502	15,060
Salt Creek	31,272	938,160
Simpson Ridge	56	1,680
Teapot Dome	36	1,080
Total November	52,890	1,586,700
Total October	53,025	1,643,775
Difference	135	57,075

MONTANA

Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Cat Creek	1,271	38,130
Kevin-Sunburst	6,915	207,450
Pondera	2,433	72,990
Lake Basin	64	1,920
Total November	10,683	320,490
Total October	10,824	335,544
Difference	141	15,054

COLORADO

Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Craig	1,133	33,990
Fort Collins	1,861	55,830
Florence	741	22,230
Iles	1,172	35,160
Tow Creek	429	12,870
Miscellaneous (Est.)	125	3,750
Total November	5,461	163,830
Total October	5,418	167,958
Difference	43	4,128

NEW MEXICO

Daily Average and Monthly Production in November

	Daily av. (Bbls.)	Month (Bbls.)
Artesia	736	22,080
Cap Rock (Maljamar)	921	27,630
Lea and Eddy	5,285	158,550
Hog Back	530	15,900
Rattlesnake	1,715	51,450
Table Mesa	116	3,480
Total November	9,303	279,090
Total October	7,925	245,675
Difference	1,378	33,415

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

(Continued from Page 53)

E. N. Morgan's No. 1 Whithair, NW SE Sec. 9-12-1 ....Shut down 150 ft.

DOUGLAS COUNTY

Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17 ..Shut down 550 ft.

EDWARDS COUNTY

Skelly's No. 1 Johnson, NE SW Sec. 21-26-17w .....Drlg. 3,230 ft.
Barnsdall Oil's No. 1 McCarty, NW NE Sec. 31-25-17w..Drlg. 2,548 ft.
Dixie & Amerada's No. 1 McCarty, SW cor. Sec. 22-25-17w .....Drlg. 3,006 ft.

ELK COUNTY

Empire and Arkansas Fuel's No. 1 Record, C NW NE SE Sec. 32-30-10 .....Total depth 1,603 ft.; fishing.

ELLIS COUNTY

Streeter & Stearns' No. 1 Leiker, SW NE Sec. 26-13-20w..Shut down 1,290 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w ....Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w .....Fishing 2,555 ft.

ELLSWORTH COUNTY

Tatlock et al's No. 1 Sackem, C SW SE Sec. 25-17-9w ..Drlg. 1,965 ft.

FORD COUNTY

McNabb et al's No. 1 Unknown, C SE Sec. 26-27-22w ..Shut down 400 ft.
Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w ...Cleaning out 390 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w..Shut down 4,340 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w..Rig.

GREENWOOD COUNTY

Ward & McGinnis' No. 1 Henley, SW NE Sec. 23-25-9 ..Drlg. 600 ft.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12..Drlg. 750 ft.

HARPER COUNTY

Boeler et al's No. 1 Bear, C NE Sec. 21-31-6w .....Shut down 440 ft.

HARVEY COUNTY

Superior's No. 1 Regier, SE NW Sec. 11-22-3w .....Drlg. 2,730 ft.
Independent & Reserve Oil Co.'s No. 1 Moulds, C NE Sec. 7-24-1w .....Abandoned 3,815 ft.
Liggett et al's No. 1 Regier, C SE NW SE Sec. 2-23-3w..Fishing 3,355 ft.
E. W. Marland, Inc.'s No. 1 Neiman, C NE SE NE Sec. 8-24-2 .....Drlg. 2,915 ft.
McCulloch et al's No. 1 Prouty, NW cor. SW Sec. 3-23-1w .....Shut down 3,501 ft.
Mrs. Gay et al's No. 1 Grove, C NW NE NW Sec. 29-23-1w .....Shut down 3,360 ft.

HODGEMAN COUNTY

Phillips Pet.'s No. 1 Hausman, NW NE Sec. 30-22-22w ..Underreaming 6-in. csg. 4,634 ft.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 .....Rigged up and shut down.

KINGMAN COUNTY

D. P. Fleeger's No. 1 Ashcraft, SE SW NE Sec. 16-28-7w .....Drlg. 4,095 ft.
White Eagle's No. 1 Lorenz, C NE SW SE Sec. 25-27-5w..Underreaming 8-in. csg. 3,774 ft.

LANE COUNTY

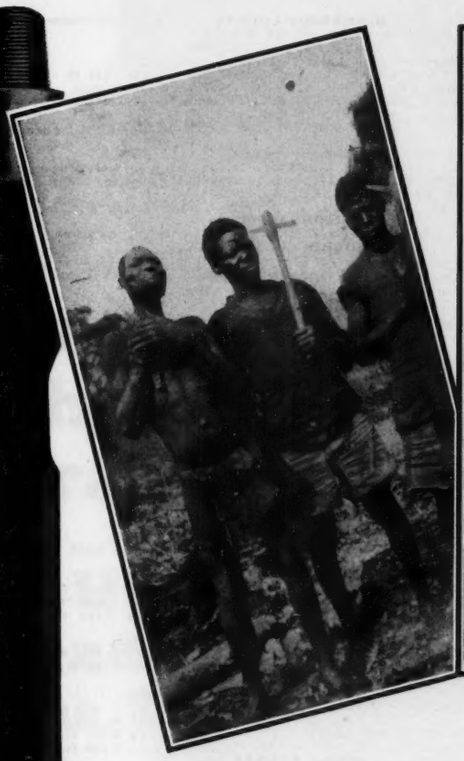
Robinson's No. 1 Dickerson, Sec. 11-18-27w .....3-in. csg. 2,625 ft.

LYON COUNTY

Gordan-Stats' No. 1 Proche, C NE SE NW Sec. 16-17-10..Abandoned 1,350 ft.
F. A. Bailiere's No. 1 McKee, SW NE Sec. 32-21-11 ....Spudding.

MARION COUNTY

Empire O. & R. Co.'s No. 1 Black, C NE NW SW Sec. 27-19-2 .....Drlg. 465 ft.
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 ....Rig.
White Eagle's No. 1 Ucker, NE NW Sec. 24-17-2 .....Fishing 3,232 ft.



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"The HIGHER STANDARD"

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A Spang Wire Line Clamp is also being used by this crew and their dusky helpers.

Spang Weldless Jars are standard equipment in all fields, domestic and foreign. Over 300 leading Supply Stores carry them in stock.

SPANG & COMPANY
BUTLER, PA.

The HIGHER STANDARD

SPANG

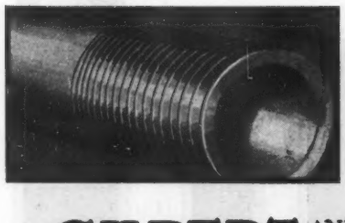
WELDLESS JARS

Easily applied

..... it makes pipe joints tight .....

It takes only a few seconds to apply Gilbert & Barker Pipe Sealing Compound to all joints in all couplings, tees and elbows when installing gasoline oil handling equipment. But the protection it affords is as permanent as the line itself. Gas and oil cannot leak past joints sealed the G & B way. No chance for seepage. No stock losses. No expensive overhauling at some future date. Absolute protection for years to come.

Gilbert & Barker Pipe Sealing Compound comes in cans of three sizes; ⅛ pint for 15c, a handy size for the tool kit; pint for 75c, a good size for general shop use, and quart for $1.45, the size to keep on hand for supply.



Fill the male threads *only* with G & B Pipe Sealing Compound, after all threads have been thoroughly cleaned. No time wasted but you give non-crumbling, leak-proof joints to the entire line.

GILBERT AND BARKER
MANUFACTURING COMPANY
PUMPS AND TANKS FOR THE OIL TRADE
SPRINGFIELD, MASS.

Visible Gasoline Pumps, mechanical measure or sight measure, hand or air operated, equipped with the famous NULTRA *bowls. Also piston type pumps with visible discharge. Pump and tank outfits for motor oils, including the popular "NARRO-LUBE" type. Special pipe sealing compound for gasoline and oil pump and tank installations.*

McPHERSON COUNTY

Galt Brown et al's No. 1 Zeitlow, C NE SE SE Sec. 7-17-1w ..... Rig.
Dixie Oil Co.'s No. 1 Johnson, SW cor. Sec. 20-17-3w .. Drlg. 1,820 ft.
McCulloch Oil Co.'s No. 1 Cornelius, SW cor. Sec. 7-21-4.. Shut down 3,230 ft.
Kansas Oil Co.'s No. 1 Otto, SW NW Sec. 21-20-1w .... Drlg. 2,630 ft.
Reynolds et al's No. 1 Koohn, NE SE NE Sec. 15-20-2w.. Shut down 3,443-50 ft.; water.
McPherson O. & G. Co.'s No. 1 Fisk, SW NE NE Sec. 15-21-2w ..... Water 3,660-65 ft.; abandoned 3,692 ft.
McPherson O. & G. Co.'s No. 1 Sorenson, C SE Sec. 23-18-2w ..... Abandoned 3,602 ft.; water.
Milmac's No. 1 Decker, NW cor. Sec. 11-20-3w ..... Skid rig; drlg. 370 ft.; new hole.
Transcontinental Oil Co.'s No. 1 Algers, NE SW Sec. 1-19-5w ..... Underreaming 6-in. cag. 3,995 ft.

MORTON COUNTY

Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-42.. Spudded; shut down.

MORRIS COUNTY

Urschell et al's No. 1 Scott, NE SW Sec. 6-16-6 ..... Shut down 400 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, C SW Sec. 17-4-21w .... Rig.

OSBORNE COUNTY

Phillips Pet. Co.'s No. 1 Grieve, NW SE NE Sec. 6-7-12w. Drlg. 4,095 ft.
Mid-Kansas' No. 1 Boyce, SE cor. NW Sec. 18-6-13w .... Drlg. 4,680 ft.

PAWNEE COUNTY

Prairie O. & G. Co.'s No. 1 Black, SW NE NE Sec. 11-20-18w ..... Drlg. 2,640 ft.

PRATT COUNTY

O'Haver & Jones' No. 1 Garacke, C NE SW Sec. 7-26-14w ..... Drlg. 3,345 ft.
O'Haver & Jones' No. 1 Lunt, C SW NW Sec. 15-28-14w. Fishing 4,743 ft.
Wilcox O. & G. Co.'s No. 1 Unknown, SW NW Sec. 7-26-15w ..... Fishing 1,360 ft.

RENO COUNTY

Empire O. & R. Co.'s No. 1 Blitz, NE NW Sec. 36-25-4w ..... Drlg. 4,040 ft.
Wilcox O. & G. Co.'s No. 1 McPheeters, SW NW Sec. 22-26-8w ..... Drlg. 3,250 ft.
Witt's No. 1 Olsen, C SE NW Sec. 14-22-6w ..... Drlg. 2,190 ft.
Skelly Oil Co.'s No. 1 Birkett, NE SW Sec. 30-24-7w .. Total depth 4,137 ft.; fishing.

RICE COUNTY

Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w .... Rig.
Boucher's No. 1 Bieg, Sec. 16-21-10w ..... Shut down 1,925 ft.
Miller & Detrick's No. 1 Shumway, C SW Sec. 2-20-9w .. Shut down 3,636 ft.; water.
Burgher's No. 1 Fair, C SE NE NE Sec. 14-21-10w ..... Shut down 1,700 ft.
Derby Oil Co.'s No. 1 Johnson, C NW NE SE Sec. 24-20-6w ..... Drlg. 2,660 ft.
Milmac's No. 1 Cain, C SE Sec. 29-19-7w ..... Shut down 3,700 ft.
Danciger et al's No. 1 Bell, C SW Sec. 16-19-8w ..... Shut down 2,165 ft.
McCullough et al's No. 1 Williams, C NE Sec. 35-20-8w. Rig.

RILEY COUNTY

Arkansas Fuel Oil Co.'s No. 1 Martin, SE NE SW Sec. 24-8-4 ..... Drlg. 2,707 ft.
Grey et al's No. 1 Smith, NE SE Sec. 30-6-6 ..... Shut down 1,970 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e.. Shut down 2,245 ft.

ROOKS COUNTY

A. H. Kruger's No. 1 Steis, NW SE SW Sec. 12-9-16w ... Spudding.
Central Commercial's No. 1 Baxa, Sec. 22-9-17w .... Drlg. 3,553 ft.

RUSH COUNTY

Danciger Oil & Refining Co.'s No. 1 Nave, NW cor. Sec. 26-17-17w ..... Drlg. 2,516 ft.
Milmac's No. 1 Mohr, C NW Sec. 11-18-16w ..... Drlg. 250 ft.

SALINE COUNTY

Austin et al's No. 1 Olsen, NW SW SE Sec. 10-15-4w .... Shut down 3,690 ft.
Templeman's No. 1 Lanbengager, C SW Sec. 20-15-5w .. Drlg. 3,725 ft.
Twin Mounds' No. 1 Weis, NW NE NW Sec. 20-13-4w.. Shut down 700 ft.

SEDGWICK COUNTY

Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w ..... Shut down 50 ft.
Marland and Amerada's No. 1 Sensorth, NW cor. Sec. 25-28-4w ..... Drlg. 4,128 ft.
McCullough Oil Co.'s No. 1 Buckles, NW cor. SE Sec. 3-28-1w ..... Fishing 1,115 ft.
LaFont et al's No. 1 Carlton, C SE SE SW Sec. 24-28-1e.. Shut down 1,385 ft.

SHAWNEE COUNTY

Jenkins & Scott's No. 1 Sherman, NW NE Sec. 28-10-15 ..... Shut down 985 ft.
Jenkins & Scott's No. 1 Haden, NE SE Sec. 8-12-14 .... Shut down 750 ft.

SHERIDAN COUNTY

Mandalin O. & G. Co.'s No. 1 Unknown, C SE SW SW Sec. 27-7-26w ..... Spudded; shut down.

STAFFORD COUNTY

Gibson's No. 1 Mueller, C SW Sec. 11-23-14w ..... Drlg. 2,610 ft.

STEVENS COUNTY

Argus Gas Co.'s No. 1 Hobbe, C SE Sec. 17-32-37w ..... Drlg. 1,535 ft.
Trees Oil Co.'s No. 1 Thompson, C NE SW Sec. 3-35-38w.. 11,000,000 ft. gas 2,615-2,780 ft.; completed.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w ..... Shut down 1,600 ft.

SMITH COUNTY

Phillips Pet.'s No. 1 Clydesdale, SE NW Sec. 23-5-14w .. Drlg. 3,955 ft.

SUMNER COUNTY

Hatfield's No. 1 Dauber, NE cor. Sec. 18-30-1w ..... Shut down 50 ft.
Kingwood Oil Co.'s No. 1 Stayton, C NE Sec. 18-31-2w .. Shut down 3,845 ft.
Slick et al's No. 1 Peasel, NW cor. Sec. 33-31-1w ..... Chat 3,651-59 ft.; est. 250 bbls. pinched to 50 bbls. daily.
Lario O. & G. Co.'s No. 1 Osborne, NE SE Sec. 21-30-1w ..... Drlg. 3,460 ft.
E. K. Carey & Laredo Oil Co.'s No. 1 Welsch, SW SE Sec. 9-34-1e ..... Chat 3,625-40 ft.; dry; cementing tools 3,670 ft.
Shell Pet. Corp.'s No. 1 Armstrong, NE cor. Sec. 12-33-1e. Total depth 3,917 ft.; shot at 3,777-85 ft. with 20 qts.; cleaning out.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w ..... Rig.

TREGO COUNTY

Dixie and Amerada's No. 1 Reitmayer, C NE NE Sec. 19-14-21w ..... Shut down 825 ft.
Prairie Oil & Gas Co.'s No. 1 Kutina, C NE SW NE Sec. 29-15-21w ..... Drlg. 3,775 ft.
Producers & Refiners Corp.'s No. 1 Kingsley, C SE NW NW Sec. 24-14-21w ..... Drlg. 3,735 ft.
Phillips Pet. Co.'s No. 1 Spitz, SE cor. Sec. 24-12-25w .... Drlg. 3,990 ft.
Day et al's No. 1 Gugler, SW NE NE Sec. 36-12-21w .... Shut down 50 ft.
Day et al's No. 1 Unknown, NE NW SW Sec. 2-11-21w.. Shut down 3,250 ft.

WASHINGTON COUNTY

McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3.. Shut down 3,100 ft.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w ..... Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w .... Shut down 4,200 ft.; will run 5-in. cag.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w ..... Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w .. Shut down 3,250 ft.

RICHARDSON COUNTY

Norton et al's No. 1 Hauser, NE cor. Sec. 26-1-14 ..... Location.

WEBSTER COUNTY

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 3-1n-11w ..... Shut down 555 ft.

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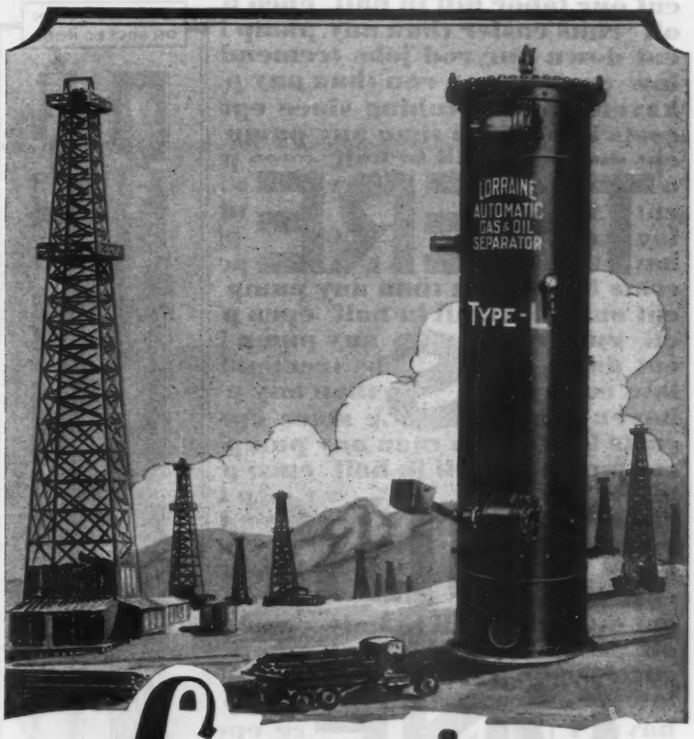

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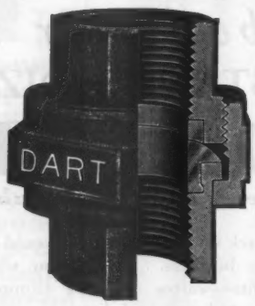

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COTTON COUNTY

T. Medlin's No. 1 Johns, SW SE Sec. 8-2s-9w ..... Drlg. 1,200 ft.

McCURTAIN COUNTY

Utopia Pet. Co.'s No. 1 Unknown, SE NW Sec. 14-9s-25..Location.
Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 .....Shut down 1,490 ft.

STEPHENS COUNTY

Smythe et al's No. 1 Johnson, NE cor. Sec. 30-2-8w ....Drlg. 1,700 ft.

TILLMAN COUNTY

Allen Bros.' No. 1 Howell, SW NE Sec. 13-1-17w .....Shut down 610 ft.
Nance et al's No. 1 Massie, NE NW Sec. 36-1S-6w .....Location.
Landfair and others' No. 1 Smith, SE SW SE Sec.
6-2s-16w .....Shut down 2,535 ft.

OKLAHOMA PANHANDLE

Skaer's No. 1 Hitch, NW cor. Sec. 25-1-15e .....Shut down 250 ft.

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Week ending January 1

Carson County

Champlin Refining Co.'s No. 5 J. W. McConnell, 990 feet north and 330 feet east of the SW cor. of the W half of the NW of Section 67, Block 4, I.&G.N.

Gray County

Gulf Production Co.'s No. 1 A. Combs and others, 330 feet north and west of the SE cor. of Section 38, Block 3, I.& G.N. Same company's No. 4 P. A. Worley and others-A, 990 feet north and 330 feet west of the SE cor. of the SW of Section 36, Block 3, I.&G.N.

Hutchinson County

Skelly Oil Co.'s No. 1 R. G. Byrd, 3,960 feet north and 2,640 feet west of the SE cor. of the R. G. Byrd 3,094.5-acre tract out of the David Luce Survey. Phillips Petroleum Co.'s No. 1 Johnson Brothers (Hood), 400 feet south and 369 feet west of the NE cor. of the north 80 acres of the south 320 acres of Section 68, Block 46, H.&T.C. Same company's No. 1 Johnson Brothers (Mayer), 990 feet south and east of the NW cor. of the NE of Section 37, Block Y. McIlroy Oil Co.'s No. 9 E. Cockrell, 200 feet north and 886 feet west of the SE cor. of the north 80 acres of Section 4, Block B-3, D.&S.E.

Moore County

Gulf Production Co.'s No. 1 C. L. Kilgore, at the C of the SW of Section 22, Block P, E.L.&R.R.R.R.

Wheeler County

Martin & Debous' No. 3 I. Close, at the C of the NW of the NE of Section 83, Block 23, H.&G.N. Edwards and others' No. 1 J. D. Cates, at the C of the NW of the NE of Section 73, Block 23, H.&G.N.

NORTH CENTRAL AND WEST TEXAS

Week ending January 1

Archer County

L. R. Dawson and others' No. 1 H. Kolb, 150 feet north and west of the most westerly SE cor. of the H. Kolb 115.6-acre tract out of Section 116, Club Ranch Subdivision. Burns & Long's No. 9 J. H. Turbeville, 150 feet south and west of the NE cor. of the SW of Section 152, R. Carson Survey. United Production Co.-Perkins & Cullum's No. 2 B. Z. Lyles, 150 feet north and 1,620 feet east of the SW cor. of Section 2, S.P.R.R., A-1,231. W. King's No. 2 W. H. Portwood, 150 feet south and 450 feet east of the NW cor. of Section 2,411, T.E.&L. Pandem Oil Corp.'s No. 3 J. A. Young-D, 150 feet south and 450 feet west of the NE cor. of the N half of the SE of Section 2,426, T.E.&L. T. F. Hunter and others' No. 1 A. H. J. Kunkel-B, 852 feet south and 1,588 feet west of the most northerly NE cor. of the G. W. Stell Survey, A-381. Panhandle Refining Co.'s No. 13 H. O. Prideaux-E, 150 feet south and 450 feet east of the NW cor. of the south 76 acres of the A. McMullen Survey, A-286. W. B. Hamilton's No. 1 W. I. Pace, 474 feet south and 597 feet east of the NW cor. of the west 100 acres of the W. I. Pace 216-acre tract out of the S. J. Williams Survey, A-786.

Brown County

Gunn Production Co.'s No. 1 J. C. Dickens, 150 feet north and east of the SW cor. of the east 60 acres of the N half of the J. C. Dickens 480-acre tract out of the N. B. Mitchell Survey No. 150. Paramount Oil Royalty Co.'s No. 2 John Guyer, 450 feet north and 150 feet west of the SE cor. of the NW of the SW of Section 22, H.T.&B. Greene Production Co.'s No. 3 W. D. McCulley, of the northwest 70 acres of the W. D. McCulley 200-acre tract out of the J. S. Thom Survey.

Clay County

R. T. Belcher and others' No. 2 B. Landrum, 470 feet south and 750 feet west of the NE cor. of Section 5, Parker County School Land, A-374. Bi-State Oil & Gas Co.'s No. 1 American Refining Co. properties, 3,200 feet south and 300 feet west of the NE cor. of Section 137, Byers Brothers Subdivision.

Coleman County

Donley and others' No. 1 Mead, 2,350 feet north and 3,250 feet east of the SW cor. of the R. Clow Survey. L. Smitr's No. 1 S. E. Switzer, 165 feet north and 639 feet west of the E cor. of the S. E. Switzer 115-acre tract out of the W. Farrish Survey No. 279.

Crane County

Gulf Production Co.'s No. 71 McElroy, 1,442 feet south and 3,850 feet west of the NE cor. of the Gulf Production Co.'s lease out of Section 201, Block F, C.C. S.D.&R.G.N.G. Same company's No. 72 McElroy, 2,102 feet south and 5,280 feet east of the NW cor. of the Gulf Production Co.'s lease out of Section 200, Block F, C.C.S.D.&R.G.N.G. Simms Oil and Atlantic Oil Producing Co.'s No. 11 University, 1,650 feet north and 2,310 feet west of the SE cor. of Section 39, Block 30, University Land. Warner-Quinlan Co.'s No. 8 University (Church & Weekley), 990 feet south and 330 feet west of the NE cor. of the SW of Section 39, Block 30, University Land.

Howard County

Gulf Production Co.'s No. 10 H. R. Clay, 990 feet south and 1,650 feet west of the NE cor. of the W half of Section 155, Block 29, W.&N.W.R.R. Group No. 1 and Continental Oil Co.'s No. 3 G. W. Overton, 990 feet from north and 330 feet from east lines of Section 5, Block 32, T-2-S, T.&P.R.R. Survey. Same company's No. 2 G. W. Overton, 1,650 feet from north and 2,310 feet from east lines of Section 5, Block 32, T-2-S, T.&P. R.R. Survey. Ward Oil Co.'s No. 23 Dora Roberts, 1,785 feet from south and 330 feet from west lines of Section 137, Block 29, W.&N.W.R.R. Survey.

Mitchell County

Magnolia Petroleum Co.'s No. 7 Mary Foster, 330 feet from north and west lines of Section 17, Block 29, T-1-S, T.&P.R.R. Survey.

Pecos County

Landreth Production and Henshaw Brothers' No. 3 University-F, 330 feet south and west of the NE cor. of the SW of Section 31, Block 16, University Land. Taylor-Link Oil Co.'s No. 14 University, 1,650 feet north and 2,310 feet west of the SE cor. of Section 13, Block 18, University Land. Same company's No. 13 University, 990 feet north and 330 feet east of the SW cor. of the SE of Section 13, Block 18, University Land.

Throckmorton County

Kisk Oil Co.'s No. 1 Upshur County School Land, 150 feet north and east of the SW cor. of Lot 26, Upshur County School Land, A-825.

Wichita County

H. Hobbs' No. 2 W. L. Warren, 150 feet west and 450 feet south of NE cor. of Block 32, K.W.V.F.L., on their 78 acres. McCarty Oil Co.'s No. 21 Kemp & Kempner, 106 feet north and 428 feet east of

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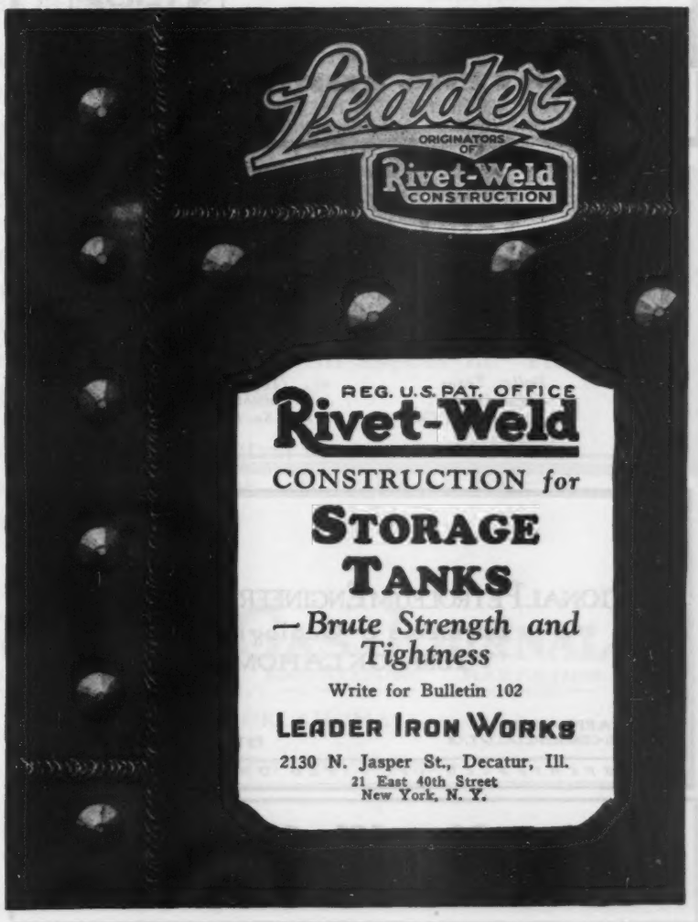

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ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

See Classified Wants
on Pages 124-125

the SW cor. of Lot 19, Block 45, Kemp Wichita Valley Land. Same company's No. 22 Kemp & Kempner, 450 feet north and 150 feet west of the SE cor. of Lot 19, Block 45, Kemp Wichita Valley Land and located in Lot 18. T. F. Hunter's No. 2 J. L. and T. J. Waggoner-E, 500 feet north and 650 feet west of the SE cor. of Section 1, G.C.&S.F., A-528.

Young County

Coleman & Shaw's No. 1 J. R. Wilson, 450 feet south and 150 feet west of the NE cor. of the J. R. Wilson 90-acre tract out of Section 153, T.E.&L. Bridwell Oil Co.'s No. 1 D. L. Wolf, 150 feet south and west of the NE cor. of the east 25 acres of the south 50 acres of the D. L. Wolf 80-acre tract out of Section 165, T.E.&L. A. A. Brashear's No. 1 L. D. Clark, 150 feet north and west of the SE cor. of the north 20 acres of the east 60 acres of the west 100 acres of the S half of Section 209, T.E.&L. Perkins & Cullum's No. 5 E. Deitrich, 1,050 feet south and 150 feet east of the NW cor. of their 45-acre lease out of the G. W. Stell Survey, A-256.

Corrections

Gray County—Smith & McDaniels' No. 1 T. B. Noble, 330 feet north and 943 feet east of the SW cor. of the NE of Section 49, Block A-9, H.&G.N.

Pecos County—Simms Petroleum Co.'s No. 1 University, 1,650 feet north and 330 feet west of the SE cor. of Section 21, Block 19, University Land. Taylor-Link Oil Co.'s No. 12 University, 990 feet north and 330 feet west of the SE cor. of the W half of the SE of Section 13, Block 18, University Land.

Wichita County—Hi-land Oil Co.'s No. 3 W. H. Chilson, 450 feet south and west of the NE cor. of their 50-acre lease out of Section 9, Denton County School Land, League 4, A-417. Hamilton & Sheldon's No. 1 M. M. Robinson, 450 feet south and 150 feet east of the NW cor. of the SW of Section 321, Waggoner Colony Subdivision.

In Wheeler County—Lone Star Gas Co.'s No. 1 J. A. Ridinger, at the C of the NW of the NW of Section 65, Block 17, H.&G.N.

CROWN BUTTE TEST

The Crown Butte structure south of the town of Simms, Cascade County, Mont., is to receive another test, according to information received by Director J. W. Cushing of the Trico organization from his son, John Cushing, associated with the Canadian Exploration Co. at Calgary, Alberta.

About 10,000 acres, formerly leased by Western Petroleum Exploration, has been taken up by Neil McQueen and associates of Calgary and a well started on the Crown Butte structure located south of the town of Simms. In 1922, Western Petroleum Exploration put down two test wells to what is known as the red beds without finding any signs of oil or gas. The leases were later surrendered and recently brought to the attention of the Calgary men who are attempting a deep test.

According to John Cushing, the Canadian Exploration Co. is interested in several large blocks of acreage in Alberta, which will likely be developed within the next two years. One well is being drilled at the present time.

RESTRAIN USE OF NAME

Judge Hugh B. Parker of the Superior Court at Providence, R. I., has issued an order temporarily restraining the newly incorporated Standard Oil Co. of Rhode Island from using the name of "Standard" in Rhode Island. A hearing has been set for January 22. The restraining order was issued on complaint of the Standard Oil Co. of New York, one of the original Standard companies which has operated in Rhode Island for several years.

The Rhode Island case is similar to that in several states. It is alleged that dummy incorporators are seeking to use the Standard names in states where the several Standard companies are already operating.

DIVIDEND NOTICE
Imperial Royalties Company

Established April, 1920
Will pay the usual monthly dividend of 1½% on its $1.00 par Preferred shares on January 30. This is dividend No. 112 and makes a total of 188½% paid to Preferred Shareholders. Also the usual monthly dividend of 18 cents a share will be paid on its Class A Preferred Shares on Jan. 30.
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WELLS COMPLETED

Field—	Comp.	Prod.	Dry	Gas
Eastern	401	2,100	30	90
Central Ohio	115	1,067	25	58
Lima	16	145	7	2
Indiana	11	248	2	2
Michigan	38	2,505	8	5
Illinois	43	1,252	17	1
Kentucky	81	3,008	18	9
Kansas	82	10,042	37	0
Oklahoma	283	127,327	89	39
North Central Texas	294	15,028	155	9
East Central Texas	18	6,070	12	1
East Texas	10	0	2	8
West Texas	85	76,663	25	0
Panhandle Texas	33	20,327	5	11
Southwest Texas	96	8,479	43	23
Gulf Coast	137	62,102	50	9
Arkansas	16	265	7	0
North Louisiana	64	1,147	21	31
Montana	31	690	14	7
Wyoming	8	723	3	0
Colorado	8	132	6	0
New Mexico	8	0	7	1
Utah	2	0	2	0
Total December	1,880	339,320	585	306
Total November	2,363	370,444	724	303
Difference	483	31,124	139	3

RIGS AND WELLS DRILLING

	Rigs	Dry	Total
Eastern	138	421	559
Central Ohio	66	157	223
Lima	5	31	36
Indiana	4	41	45
Michigan	68	107	175
Illinois	1	56	57
Kentucky-Tennessee	7	172	179
Alabama	1	4	5
Mississippi	6	14	20
Kansas	46	261	307
Oklahoma	140	855	995
North Central Texas	96	427	523
East Central Texas	11	23	34
East Texas	4	12	16
West Texas	55	260	315
Panhandle Texas	22	118	140
Southwest Texas	57	174	231
Gulf Coast	39	204	243
Arkansas	8	53	61
North Louisiana	58	115	173
Montana	20	86	106
Wyoming	23	131	154
Colorado	22	77	99
New Mexico	28	82	110
Utah	2	29	31
Total December	927	3,910	4,837
Total November	922	4,103	5,025
Difference	5	193	188

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carter	15	1,523	2	4
Cotton	11	784	1	0
Creek	24	430	8	3
Hughes	5	250	4	0
Kay	3	946	2	0
Muskogee	10	66	3	4
Okfuskee	13	417	6	1
Okmulgee	16	185	5	5
Osage	18	435	6	6
Oklahoma	8	60,851	0	0
Pawnee	9	547	3	0
Pontotoc	13	725	1	1
Pottawatomie	30	13,122	10	2
Seminole	58	42,065	16	3
Stephens	12	835	4	1
Wagoner	5	0	4	1
Miscellaneous	33	4,144	14	8
Total December	283	127,327	89	39
Total November	297	107,444	97	46
Difference	14	19,883	8	7

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Caddo	0	12	12
Carter	1	14	15
Cotton	1	10	11
Creek	9	60	69
Grady	3	5	8
Grant	1	14	15
Hughes	8	10	18
Kay	0	6	6
Kiowa	0	9	9
Logan	0	13	13
Lincoln	0	14	14
Muskogee	8	22	30
Oklahoma	24	161	185
Okfuskee	9	31	40
Okmulgee	5	19	24
Osage	9	26	35
Pawnee	2	17	19
Payne	1	11	12
Pontotoc	2	31	33
Pottawatomie	24	61	85
Seminole	19	185	204
Stephens	6	32	38
Tulsa	1	17	18
Wagoner	1	12	13
Miscellaneous	6	63	69
Total December	140	855	995
Total November	130	888	1,018
Difference	10	33	23

WELLS COMPLETED

CARTER COUNTY

23-1s-3w E. Gill, Magnolia Pet. Co. 4.. 307
30-1s-3w Dixon, Carter Oil Co. 8..... gas
30-1s-3w McCartney, the Prairie O. & G. Co. 775
Putman, Ven Mex Oil Co. 1 gas
Putman, Magnolia Pet. Co. 2 162
23-3s-4w Roberson, Porter & Monahan 1 dry
27-2s-3w Fee, C. R. Smith 3 ..... gas
20-1s-3w Ratliff, Carter Oil Co. 5... 20
20-1s-3w Tivas, Magnolia Pet. Co. 2... 11
23-1s-3w Metheny, Ven Mex Oil Co. 1.. 90
29-1s-3w McGahey, Ven Mex Oil Co. 1.. 108
30-1s-3w Dixon, Carter Oil Co. 9 .... gas
4-2s-3w Powers, Magnolia Pet. Co. 2 30
10-4s-2w Rexroat, Cotton Belt Pet. Co. 1 20

Wells completed 15
Production 1,523
Dry 2
Gas 4
Gas production 113,000,000

COTTON COUNTY

35-1s-10w Chambers, Razor & Aikens 2 19
1-2s-10w Watkins, Shasta Oil Co. 1.. 45
2-2s-10w Cobb, Shasta Oil Co. 3.... 130
Slogan, Shasta Oil Co. 8.... 160
Slogan, Shasta Oil Co. 7.... 100
35-1s-10w Chambers, Razor & Aikens 3 170
1-2s-10w Indian, Shasta Oil Co. 1.... 30
35-1s-10w Chambers, Wirt Franklin Pet. Corp. 5 40
Chambers, Wirt Franklin Pet. Corp. 7 50
31-1s- 9w Smith, Shasta Oil Co. 1.... 40
4-4s-10w Bandy, Wirt Franklin Pet. Corp. 1 ..... dry

Wells completed 11
Production 784
Dry 1

CREEK COUNTY

25-19- 8 Monday, Foster Pet Co. et al 1 145
16-15- 8 Knight, Shaffer O. & R. Co. 1 dry
2-15-11 Cousins, Troy Oil Co. 13 17
16-14-10 Reynolds, Atlantic Oil Producing Co. 1..... 30
17-19- 9 Grayson, Operators Oil Co. 2.. 5
Grayson, Operators Oil Co. 3.. 40
22-17- 7 Fife, Tidal Oil Co. 3..... dry
12-17-10 Harris, Henry & Avers 1..... dry
13-17-10 Fuisom, A. B. Ice 10 50
18-17-10 Barnett, Pioneer Pet Co. and Darby Pet. 1 ..... dry
17-17-12 Kiefer, Franchot Oil Co. 32.. 15
15-14-10 Gooden, Atlantic O. P. Co. 1.. dry
32-18-11 Drew, Keaton et al 1-A ..... dry
3-17-10 Hay, O. M. Irelan et al 2 .... gas
14-17-10 Baker, The Texas Company 5 45
17-17-10 Shepard, H. L. Dedman et al 2 25
22-17-10 Self, William Sherry et al 1.. dry
30-17-11 Hardridge, McCready et al 3.. dry
34-16-11 Ross, Paraffine Oil Co. 8 30
16-17-12 Berryhill, the Prairie O. & G. Co. 36 2
21-18- 9 Walker, R. O. Bailey et al 4.. 8
13-17-10 Smiles, Ted Ray Oil 1 ..... gas
17-17-10 Little Head, Reiter-Foster Oil Corp. 2 18
35-17-10 Bucktrot, H. C. Wilson 6 .... gas

Wells completed 24
Production 430
Dry 8
Gas 3
Gas production 9,000,000

HUGHES COUNTY

5- 8-11 Bird, Troutt, Drlg. Co. 1-A .. dry
17- 5- 9 Huddleston, E. W. Whitney 1 dry
30-18-12 Bird, McGee Bros. 1 ..... dry
17- 5- 8 Reed, Magnolia Pet. Co. 7 .. 250
23- 6- 8 Scott, McCulloch Oil Co. 1 .. dry

Wells completed 5
Production 250
Dry 4

KAY COUNTY

17-28-1 Purty, Wentz Oil Corp. 3 .. 946
24-28-1w Covely, De Camp & Lancer 1 dry
25-28-1w Whitesides, Parrish et al 5.. dry

Wells completed 3
Production 946
Dry 2

MUSKOGEE COUNTY

8-15-15 Barnett, Babcock Bros. 1 30
13-13-18 Kelly, Wilson & Barnes 2 ... dry
4-15- 5 Simmons, Bryan Pet. Co. 2.. 6
1-14-18 Francis, W. J. Metzger et al 11 30
15-13-18 Foreman, C. F. Ray et al 1.... gas
Foreman, E. Mills et al 1.... dry
24-13-18 Morris, H. Burke 1 ..... gas
2-14-18 Cherry, H. L. Jolly 4 ..... dry
23-13-18 Jordan, H. D. Johnston et al 3 gas
15-13-18 Weaver, C. F. Ray et al 1.... gas

Wells completed 10
Production 66
Dry 3
Gas 4
Gas production 4,700,000

OKFUSKEE COUNTY

35-11- 9 Berryhill, E. L. Robinson et al 6 12
22-11-11 Holmes, Champlin O. & R. Co. 10 140
28- 9-10 Barnett, T. C. Inglehart 1.... gas
18-12-10 Wolf, the Prairie O. & G. Co. and T. B. Slick 1 ..... dry
33-12-10 McNac, Independent O. & G. Co. 1 ..... dry
13-10-11 Snell, Atlantic O. P. Co. 1.. dry
14-11-11 Parrish, Champlin O. & R. Co. 3 135
15-11-11 Washington, Champlin O. & R. Co. 7 50
23-11-11 Jefferson, Summitt Drlg. Co. 1-A 30
11-10-11 Simmers, Regal Oil Co. 10... dry
6-11- 7 Carolina, Superior Oil Corp. 1 dry
31-11-11 Dindy "A," Mid-Continent Pet. Corp. 2 50
12-10-11 Autry, F. Moore et al 2 ..... dry

Wells completed 13
Production 417
Dry 6
Gas 1
Gas production 15,000,000

OKMULGEE COUNTY

15-14-13 Brinton, J. K. Gardner 1 ... dry
24-14-14 Lewis, Elm Oil Co. 2 ..... gas
26-14-14 Flint, J. L. Selby 1-A 60
6-15-13 Jones, Devonian Oil Co. 1 ... 20
Scott, Devonian Oil Co. 1 ... dry
16-15-14 McKinney, Denton & Marshall 1 dry
1-14-12 Stevens, C. D. Burns 4 ..... dry
24-14-12 Warner, I. M. Levine et al 1-A gas
26-14-14 Flint, J. L. Selby 17 ..... gas
16-13-14 Grayson, Simms Oil Co. 6... dry
22-13-14 Fox, Penrod & Thompson et al 11 15
20-16-13 Price, Kirkland & Son 5 10
10-15-14 Carter, F. D. Misener 4 50
17-15-13 Gibson, Kirkland & Son 2-A.. gas
14-14-14 Colbert, J. E. Wallace 10 ... 30
19-14-14 Bradford, W. B. Pine 5 ..... gas

Wells completed 16
Production 185
Dry 5
Gas 5
Gas production 6,600,000

OSAGE COUNTY

20-29- 9 Winona Oil Co. 8 80
32-29-12 Jennings Oil Co. 2 ..... dry
29-28-11 Osage Gas Producers Co. 396.. gas
31-25- 8 Petroleum Drlg. Co. 1 ..... dry
11-26- 8 Minnehoma Oil Co. 5 ..... dry
8-25-11 I.T.I. Oil Co. 419 ..... gas
32-23-10 Union Oil & Mining Co. 2 ... 200
10-21- 8 Mundy et al 2 30
5-21-12 Oklahoma Natl. Gas Corp. 1,744 gas
27-27-11 Peters Pet. Corp. 2 20
23-25- 7 Lewis, Prod. Co. 1 ..... dry
23-25- 9 Peters Pet. Corp. and P. & R. Corp. 2 ..... dry
4-20-10 Oklahoma Power & Water Co. 128 ..... gas
9-20-10 Oklahoma Power & Water Co. 127 ..... gas
22-27-11 I.T.I. Oil Co. 372 30
5-21-12 Oklahoma Natural Gas Corp. 1,744 ..... gas
32-24- 9 Peters Pet. Corp. 6 ..... dry
27-27-11 Peters Pet. Corp. 2 75

Wells completed 18
Production 435
Dry 6
Gas 6
Gas production 4,467,000

OKLAHOMA COUNTY

13-11-3w Trosper, I.T.I. Oil Co. et al 1 5,809
Glidden, T. B. Slick 1 17,276
Glidden, T. B. Slick 2 2,929
25-11-3w Johnson, I.T.I. Oil Co. et al 1 8,355
24-11-3w Fortson, Mid-Kansas Oil Co. 3. 17,166
Henning, I.T.I. Oil Co. 1 ... 5,601
30-11-2w Stamper, Sinclair O. & G. Co. 2..... 500
Stamper, Sinclair O. & G. Co. 3 3,215

Wells completed 8
Production 60,851

PAWNEE COUNTY

21-29- 9 McCoy, P. M. Kerr et al 1... dry
35-20- 9 Wiggs, Roy Sears et al 6... 70
36-20- 9 Zickelfoose, National Refg. Co. 2 ..... dry
7-20- 8 Martin, Nadine Oil Co. 5.... 200
27-20- 9 Johnson, McMan et al 2..... 65
35-20- 9 Smelzer, Swift et al 6 125
20-20-10 Miller, H. Purser et al 1-A... dry
14-21- 7 John Markham 7 7
27-20- 9 Byles, Johnson O. & R. Co. 2 80

Wells completed 9
Production 547
Dry 3

PONTOTOC COUNTY

1-4-7 Ritchie, Homaokla Oil Co. 5.... 30
31-5-5 Stafford, Benedum & Trees Oil Co. 1 148
10-5-4 Moses, Independent O. & G. Co. and Shaffer O. & R. 1 ..... dry
19-5-5 Perry, Transcontinental Oil Co. 4 117
Perry, Transcontinental Oil Co. 5 120
31-5-5 Stafford, Denver P. & R. Co. 1.. 94
28-5-8 Dawson, Tidal Oil Co. 14 39
29-5-8 Harrell, Baker & Lynch 1 10
33-5-8 Shields, Homaokla Oil Co. 4.... gas
28-5-8 Forney, the Prairie O. & G. Co. 1 100
18-5-5 Newby, Continental Oil Co. 1... 24
19-5-5 Guest, Independent O. & G. Co. 2 40
1-4-7 Wade, Markham & Pugh 1..... 3

Wells completed 13
Production 725
Dry 1
Gas 1
Gas production 7,000,000

POTTAWATOMIE COUNTY

8-9-5 Songster, Superior Oil Corp. 2.. 700
35-8-4 Shouse, I.T.I. Oil Co. 4 107
15-7-4 F. Davis, Independent O. & G. Co. and Darby Pet. 2 207
17-7-4 Green, Gypsy Oil Co. 5 4,535
19-6-4 Alexander, T. B. Slick 3 110
17-7-4 Bettis, Empire O. & R. Co. 2... dry
21-7-4 Brandenburg, Pure Oil Co. 1... 430
22-7-4 Denton, Magnolia Pet. Co. 1... gas
Billington, Magnolia Pet. Co. 4. 1,154
18-6-4 Asher townsite, Deignan et al 1 dry
19-6-4 Blackbird, Superior Oil and Gypsy Oil 1 ..... dry
Blackbird, Superior Oil and Gypsy Oil 2 ..... dry
35-8-4 Shobe, I.T.I. Oil Co. 3 64
15-7-3 Vinyard, Amerada Pet. Corp. et al 1 265
17-7-4 Wyatt, Houston Oil Co. 5 600
Wyatt, Houston Oil Co. 6 211
Hubanks, Magnolia Pet. Co. and Pierce Oil 3 ..... dry
Regan, the Prairie O. & G. Co. 3. 1,315
22-7-4 Curly, Independent O. & G. and Darby Pet. 1 ..... dry
24-7-4 Coley, Sinclair O. & G. Co. 2... 165
3-8-4 Bayliss, Superior Oil Corp. et al 1 dry
9-8-4 Tibbes, Keister & Manning 1... dry
35-8-4 Mull, Independent O. & G. Co. 2 207
17-7-4 Green, Gypsy Oil Co. 3 547
16-7-4 Decker, Skelly Oil Co. 2 833
Simms, Minnehoma Oil Co. 3.. 130
22-7-4 Hilton, Magnolia Pet. Co. 1....1,542
S. Ogle, Magnolia Pet. Co. 1... gas
23-6-4 Pandosh, Gypsy Oil Co. et al 1.. dry
20-8-5 Villines, the Prairie O. & G. Co. and T. B. Slick 1 ..... dry

Wells completed 30
Production 13,122
Dry 10
Gas 2
Gas production 23,000,000

SEMINOLE COUNTY

18- 9-6 Panos, Magnolia Pet. Co. 1... 525
Anderson, Magnolia Pet. Co. 8. 258
Anderson, Magnolia Pet. Co. 12 210
32- 9-6 Earles, Amerada Pet. Corp. 1.. dry
18- 9-7 Johnson, Continental Oil Co. 3 dry
24- 7-6 Larney, Carter Oil Co. 5 ..... gas
9- 7-7 Thlocco, Independent O. & G. Co 1 ..... dry
12- 6-7 Spillman, Magnolia Pet. Co. 1.. 720
13- 5-7 Lewis, The Texas Company 1.. 595
36- 6-6 Betsey, the Prairie O. & G. Co. 1 dry
28-10-5 Luckett, McCulloch et al 1.... dry
31-10-6 Saloche, Gypsy Oil Co. 1 60
5- 9-6 Varnum, Skelly Oil Co. et al 2 344
7- 9-6 McDaniel, Mid-Continent Pet. Corp. 1 590
18- 9-6 D. W. Anderson, Magnolia Pet. Co. 3 1,560
A. Anderson, Magnolia Pet. Co. 11 10
Payne, Gypsy Oil and Devonian Oil 7 755
6- 8-6 Mission, Twin State Oil Co. 3.. dry
4- 7-7 Harris, Continental Oil and Shaffer O. & R. Co. 5 300
Harris, Continental Oil and Shaffer O. & R. Co. 6..... 680
9- 7-7 Reed, Superior Oil and Magnolia Pet. Co. 1 ..... dry
13- 6-7 Bates, Pure Oil Co. 2 1,936
24- 5-7 Joanna, Sinclair O. & G. Co. 2. gas
14- 7-6 Harris, the Prairie O. & G. Co. 5 gas
15-10-6 Hully, Carter Oil Co. et al 1... dry
16- 9-6 Noble, Carter Oil Co. 1 ..... dry
18- 9-6 A. Anderson, Magnolia Pet. Co. 10 2,204
19- 9-6 Nichols, Sinclair O. & G. Co. 1. 2,980
Nichols, Sinclair O. & G. Co. 6. 5,685
Jefferson, Producers & Refiners Corp. 1 4,580
16- 8-8 McGirt, Magnolia Pet. Co. 1.. dry
23- 7-6 Eleck, Carter Oil Co. 2 190
5- 7-7 Smith, the Prairie O. & G. Co. 2..1,240
Smith, the Prairie O. & G. Co. 3..1,505
8- 6-6 Harjoche, E. L. Harris 1 160
32-10-6 Nevins, Burke-Greis Oil Co. 2. 170
17- 9-6 Sullivan, Amerada Pet. Corp. 3..1,710
Fixico, Burke-Greis Oil Co. 2..1,515
18- 9-6 Payne, Gypsy Oil and Devonian Oil 8 2,367
Payne, Gypsy Oil and Devonian Oil 9 1,095
Payne, Gypsy Oil and Devonian Oil 10 485
19- 9-6 Wrightsman, Carter Oil Oil Co. 2 1,925
27- 7-5 Culley, Denver P. & R. Co. 1.. dry
17- 9-6 Calkins, the Prairie O. & G. Co. 3 300
2- 7-6 Cruse, Magnolia Pet. Co. 5.... dry
3- 7-6 Johnson, Empire O. & R. Co. and Houston Oil 1 ..... dry
14- 7-6 Harjo, Magnolia Pet. Co. 3-B.. dry
30- 7-6 Robertson, Reiter-Foster Oil Corp. 1 ..... dry
5- 7-7 Phillips, Sinclair O. & G. Co. 8 685
5- 7-7 Walker, Gypsy Oil Co. 2..... 880
Walker, Gypsy Oil Co. 3.....1,792
13- 6-7 Smith, Skelly Oil Co. 1 ..... dry
7- 6-8 Marshall, Twin State Oil Co. 1. 40
13- 5-7 Reed, Magnolia Pet. Co. 2.... 564
Fleet, Blackwell O. & G. Co. 3 360
Lusty, Barnsdall Oil Co. 1.... 630
14- 5-7 Parney, Magnolia Pet. Co. 1.. 380
Harjo, Mid-Continent Pet. Corp. 4 80

Wells completed 58
Production 42,065
Dry 16
Gas 3
Gas production 58,000,000

STEPHENS COUNTY

5-1s-8w Glenn, Heydrick et al 1..... dry
34-1s-8w Nigh, Ven Mex Oil Co. and Mid-Continent Oil Co. 8... 10
13-2s-8w Marks, Magnolia Pet. Co. 6.. 40
34-1s-8w Nigh, Ellis, Drlg. Co. 9..... 12
9-2s-6w Bonner, Wirt Franklin Pet. Corp. 1 ..... dry
Green, Wirt Franklin Pet. Corp. 1 550
18-1s-8w Dial, Fossett et al 1 ..... dry
35-1s-8w Thompson, Ven Mex Oil Co. and Mid-Continent Oil 2... dry
2-1s-4w Pierce, Shell Pet. Corp. 1... 75
12-2s-8w Fobb "B," Murphy Oil Co. 17 65
12-1s-4w Drake "B," Wirt Franklin Pet. Corp. 3 83
9-2-6w Martin, Wirt Franklin Pet. Corp. 1 ..... gas

Wells completed 12
Production 835
Dry 4
Gas 1
Gas production 40,000,000

WAGONER COUNTY

28-18-16 Smith, Creekmore & Morrison 1 ..... dry
25-16-16 Lovett, Mack Drlg. Co. 1..... dry
27-18-15 Berryhill, J. E. Martin 1-A.. dry
25-18-17 McKellop, Union Oil Co. 1-A.. gas
36-16-17 Smith, Cherokee Public Service Co. 2 ..... dry

Wells completed 5
Dry 4
Gas 1
Gas production 2,500,000

MISCELLANEOUS COUNTIES

Grady County—
35- 5- 8w Smith, Magnolia Pet. Co. 9.. gas
28- 3- 5w Harrison, Magnolia Pet. Co. 4 gas

Cleveland County—
15- 7- 1w Vandeveer, Sooner Oil Co. 1. dry

Lincoln County—
25-17- 3 Harmon, Blackwell O. & G. Co. 1 ..... gas
36-17- 3 School land, Continental Oil Co. 2 ..... gas

Harmon County—
8- 4-26w Cattleman, S. M. Stauffer 1 dry

Marshall County—
13-5s- 5 McComas, C. B. Goddard Oil Co. 1 108
30-5s- 6 Davidson, Carter Oil Co. 1.. 19
13-5s- 5 McComas, C. B. Goddard Oil Co. 2 120
30-5s- 6 Davidson, Max Westheimer 1 46

McIntosh County—
2-11-18 Coleman, J. E. Weible 1..... dry

Payne County—
27-19- 4 Grove, Magnolia Pet. Co. 2.. 10
4-18- 5 Little Chief, Shaffer O. & R. Co. 3 1,972
Lincoln, Transcontinental Oil Co. 2 180
7-17- 5 McLaughlin, Mote & Wheeler et al 1 ..... dry

Le Flore County—
28- 7-26 Jackson, Le Flore County Gas & Electric Co. 3 ..... gas
19- 7-27 Fee, Le Flore County Gas & Electric Co. 92 ..... gas

Sequoyah County—
33-12-27 Greenstreet, Citizens Gas Co. 1 ..... gas

Woodward County—
2-23-17w Belva, John Farrand 2 ..... dry
Caddo County—
26- 6-10w Garner, English Drlg. Co. 1. dry
31- 6- 9w Gaffney, English Drlg. Co. 4. 125
4- 5- 9w Vann, Wirt Franklin Pet. Corp. 1 ..... dry

Kiowa County—
25- 6-18w Reneau, I. D. Flanary 1.... dry
30- 7-16w Weidel, Russell & Sloan 1.. dry

Rogers County—
29-19-17 Hawkins, J. E. Sewell et al 1 dry

Tulsa County—
34-17-12 Lewis, the Prairie O. & G. Co. 3 ..... dry

Atoka County—
6- 1-14 Warmack, J. W. Earnest 1.. dry

Beckham County—
24- 9-23w Porch, Sayre O. & R. Co. 1.. gas

Jefferson County—
34-6s- 5w Seay "B," O. V. Beck 3..... 100
Seay, O. V. Beck 4 35

Logan County—
30-19- 4w Storey, Shell Pet. Corp. 2.... 1,430

Pittsburg County—
11- 7-18 Knoblin, Mid-Western O. & R. Co. 1 ..... dry

Tillman County—
25-4s-14w Crane, Chenault & Staley 1.. dry

Wells completed 33
Production 4,146
Dry 14
Gas 8
Gas production 35,279,000

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	11	218	7	0
Elk	4	300	2	0
Greenwood	18	1,580	7	0
Sedgwick	17	3,245	6	0
McPherson	5	2,654	2	0
Miscellaneous	27	2,045	13	0
Total December	82	10,042	37	0
Total November	82	8,376	39	2
Difference	0	1,666	2	2

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Butler	3	23	26
Cowley	4	20	24
Elk	2	7	9
Ellis	3	7	10
Greenwood	5	23	28
McPherson	3	21	24
Marion	1	9	10
Rice	1	8	9
Russell	2	4	6
Sedgwick	4	23	27
Sumner	2	13	15
Woodson	3	12	15
Miscellaneous	13	91	104
Total December	46	261	307
Total November	45	284	329
Difference	1	23	22

WELLS COMPLETED
BUTLER COUNTY

20-26-7 Ow, Aladdin Pet. Co. 1 18
6-27-8 Seymour, the Prairie O. & G. Co. 1 ..... dry
12-26-3 Johnson, Sinclair O. & G. Co. 1 dry
19-26-5 Kooger, Empire O. & R. Co. 89 30
14-27-3 Chance, Aladdin Pet. Co. 1 .... dry
34-27-5 Hutchinson "C," Empire O. & R. Co. 4 100
8-27-5 McLean, Mohawk Oil Co. 2 .... dry
15-27-6 Marhall "D," Empire O. & R. Co. 2 ..... dry
19-26-5 Houston, Empire O. & R. Co. 18 60
2-25-5 Stone "A," White Eagle O. & R. Co. 1 ..... dry
2-24-3 Weakly, Walton Oil Co. 1 .... dry

Wells completed 11
Production 218
Dry 7

GREENWOOD COUNTY

22-22-12 Norton "C," Empire O. & R. Co. 2 20
27-23-11 Ellis, Dixie Oil & Amarada Pet. Corp. 3 50
21-22-13 Walter, Derby Oil Co. 1 .... dry
21-23-11 Edwards "B," Empire O. & R. Co. 7 195
24-24- 9 Moore "C," E. W. Marland, Inc. 1 ..... dry
4-24-12 Gilbert, The Prairie O. & G. Co. 1 ..... dry
6-24-12 Beauchat, Tulsa Oil Co. 1 .... dry
5-24-13 Sharp, Sheedy et al 3 40
Sharp, Sheedy et al 4 300
9-25-13 Hoggart, Empire O. & R. Co. 5 25
Hoggart, Empire O. & R. Co. 6 15
12-24-11 Ott, Marshall et al 1 ..... dry
14-24-12 Sullivan, Mid-Continent Pet. Corp. 15 25
9-25-13 Grossart, Mendenhall et al 2 .. 10
22-22-13 Young, Derby Oil Co. et al 3.. 100
8-24-13 Albans, Derby Oil Co. et al 1 dry
36-24-10 Lozier, Independent O. & G. Co. 1 ..... dry
1-24-11 Newhouse, The Prairie O. & G. Co. 1 800

Wells completed 18
Production 1,580
Dry 7

ELK COUNTY

3-31-8 Denton, Minnehoma Oil & Murphy 2 200
6-31-9 Dorey, Mann et al 1 ..... dry
2-29-9 Selsan, Slemming et al 1 100
3-30-9 Mullendore, Winemiller et al 2.. dry

Wells completed 4
Production 300
Dry 2

SEDGWICK COUNTY

24-25-1 Samuels, Barnsdall Oil 1 .... dry
1-26-1w Reed, Bu-Vi-Bar Pet. et al 5 592
12-26-1w Hudson "A," Bu-Vi-Bar Pet 2 549
15-26-2 Bogue, Graham Bros. & Shell Pet. 1 136
21-28-1 Robbins, The Texas Company 2-26-1w Evans, G. L. Ramsey et al 1.. dry
12-26-1w Wright, Bu-Vi-Bar Pet. Corp. et al 9 604
27-26-1 Davidson, Burnett O. & G. Co. 1 ..... dry
10-26-2 Morris, Shell Pet. Corp. 1 167
15-26-2 Johndro, T. M. Deal et al 1.. 120
1-26-1w Bright, The Prairie O. & G. Co. & T. B. Slick 2 220
15-26-2 Fischer, Shell Pet. Corp. 5 .. 60
Lygrisse, Shell Pet. Corp. 2.. 632
24-26-2 Alliston, Wentz Oil Corp. et al 1 ..... dry
20-28-1 Robbins, White Eagle O. & R. Co. 3 ..... dry
Robbins, Geo. Dickey 1 40
19-27-2 Trustee, Fisher, Lauck et al 1 125

Wells completed 17
Production 3,245
Dry 6

McPHERSON COUNTY

9-21-3w Voshell, Empire O. & R. Co. 1 615
11-20-5w Kuns, Mid-Kansas Oil Co. 1.. dry
11-20-2w Holmes, Shell Pet. Corp. 1 .. 269
9-21-3w Voshell, W. C. McBride et al 2 1,770
30-18-2w Rolander, Graham Bros. et al 1 ..... dry

Wells completed 5
Production 2,654
Dry 2

MISCELLANEOUS COUNTIES

Coffey County—
7-23-15 Barngrower, Hines et al 1 10
13-23-14 Scott, Darby Pet. Corp. 1 .... dry
Scott, Selby O. & G. Co. 1 35

Harper County—
19-32-6w Thompson, T. B. Slick et al 1 dry
13-34-8w Miller, T. B. Slick et al 1 .... dry

Reno County—
17-26-5w Stuckey, Milmac Oil Co. 1 .. dry

Russell County—
36-15-13w Sellens, Pryor & Lockhart et al 1 185
M. Sellens, The Prairie O. & G. Co. 1 400
4-14-15w Benso, Mid-West Exploration Co. 31 140

Sumner County—
23-34-2 Padgett, Continental Oil Co. 2.. 50
36-31-2 Buzzard "C," Washoma Pet. Co. et al 1 100

Chase County—
35-22-9 Shambaugh, Selby O. & G. Co. 9 30

—Cowley County—
24-30-4 Wheeler, Landon et al 1 .... dry
30-31-6 Sitton, Lewis Prod. Co. & Gyp y Oil Co. 1 30

Chautauqua County—
1-32-10 Oliver, Griffin & Bell 6 30

Douglas County—
27-13-18 Moore, Pauline O. & G. Co. 1 dry

Ellis County—
5-12-17w Shutts, Phillips Pet. Co. 2 .. 390
19-12-17w Weigel, Phillips Pet. Co. 1.. 300

Harvey County—
13-24-2 Neiman, Waltom Oil Co. 1 .... dry

Lyon County—
24-20-11 Dubott, Mortlock et al 1 .... dry
18-21-10 Williams, Sheedy et al 1 .... dry
19-21-10 Hughes, Sheedy et al 4 150
1-21-11 Bradfield, Gordon Staats et al 1 ..... dry

Morris County—
15-16-7 Shrader, Loomis et al 1 .... dry

Saline County—
10-16-3w Olson, Dixie Oil Co. 1 ..... dry

Woodson County—
31-23-14 Bolus, Elbar Oil Co. 1 ..... dry

Ness County—
7-18-25w Aldrich, Continental Oil Co. 1 185

Wells completed 27
Production 2,045
Dry 13

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Abd.	Gas	Rigs	Drlg.	Ttl.
Anderson	4	500	1	1	4	3	7
Angelina	0	0	0	0	0	1	1
Cherokee	0	0	0	0	0	1	1
Falls	1	0	1	0	0	2	2
Henderson	1	0	1	0	0	2	2
Hill	3	0	3	0	0	1	1
Limestone	4	0	4	0	0	6	6
Milam	0	0	0	0	0	3	3
Navarro	0	0	0	0	1	1	2
Rusk	1	0	1	0	0	0	0
Upshur	0	0	0	0	0	1	1
Van Zandt	3	5,570	0	0	3	1	4
Smith	0	0	0	0	2	1	3
Woods	1	0	1	0	1	0	1
Total Dec.	18	6,070	12	1	11	23	34
Total Nov.	14	690	11	0	4	25	29
Difference	4	5,380	1	1	7	2	5

WELLS COMPLETED
ANDERSON COUNTY

Boggy Creek—Gauger, Humble Oil & Ref. Co. 2 ..... gas
Tom Jones, Jr., Humble Oil & Ref. Co. 3 400
Jones, Humble Oil & Ref. Co. 3-A ... abd
Lizzie Smith, Humble Oil & Ref. Co. 4 100

Wells completed 4
Production 500
Abandoned 1
Gas 1

FALLS COUNTY

Westbrook, Gruver et al 1 ..... abd

HENDERSON COUNTY

Coleman, Shell Petroleum Corp. 1 1

HILL COUNTY

Jones, Harper & Latson 4 ..... abd
Nelson, Mayhawk & Pinkerton 1 ..... abd
Coates, McElmurry et al 2 ..... abd

LIMESTONE COUNTY

Stranges, Haskell et al 1 ..... abd
Powell, Jensen & Baggett 1 ..... abd
Thompson, C. F. Lytle 2 ..... abd
Rhea, Why Not Oil Co. 3 ..... abd

RUSK COUNTY

Mirtie & Duran, Magnolia Petroleum Co. 1 ..... abd

VAN ZANDT COUNTY

Tunnell, Shell Petroleum Corp. 1 1890
Tunnell, Shell Petroleum Corp. 2 1810
Thompson, Pure Oil Co. 1 1870

WOODS COUNTY

Stewart, Gulf Production Co. 1 ..... abd

EAST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	*Gas	Rgs.	Drg.	Ttl.
Camp	0	0	0	0	0	1	1
Panola	8	0	0	8	4	7	11
Red River	0	0	0	0	0	3	3
Shelby	2	0	2	0	0	1	1
Total Dec.	10	0	2	8	4	12	16
Total Nov.	6	0	1	5	2	17	19
Difference	4	0	1	3	2	5	3

*Gas production 6,360,000 feet.

WELLS COMPLETED
PANOLA COUNTY

E. F. Mitcheson Sur.: Crenshaw, Ark.-La. P. L. Co. 3 ..... gas
Jas. Matthews Sur.: Werner, Ark.-La. P. L. Co. 8 ..... gas
E. F. Mitcheson Sur.: Ark.-La. P. L. Co. 10 ..... gas
Jane Thorpe Sur.: M. Jernigan, Magnolia Pet. Co. 1 ..... gas
E. F. Mitcheson Sur.: G. W. Brumble, Nemours Corp. 3 ..... gas
W. D. Matthews Sur.: Tiller, Nemours Corp. 6 ..... gas
John Womack Sur.: Brumble, The Texas Co. 8 ..... gas
Jane Thorpe Sur.: Trosper, D. Thomason 4 ..... gas

Wells completed 8
Gas 8
Gas production 6,360,000

SHELBY COUNTY

D. T. F. Yordt Sur.: Pickering, Benedum & Trees Oil Co. 1 ..... dry
G. H. Patterson Sur.: Pickering, Gulf Ref. Co. 2 ..... dry

SOUTHWEST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Mirando	36	560	17	11	9	34	43
Darst Creek	5	2,290	1	0	12	16	28
Agua Dulce	1	0	1	0	0	0	0
Refugio	26	2,614	0	9	6	23	29
Miscellaneous	28	15	25	2	30	101	131
Total Dec.	96	3,479	43	23	57	174	231
Total Nov.	68	10,400	35	12	71	155	226
Difference	28	1,921	8	11	14	19	5

WELLS COMPLETED
KOHLER FIELD—DUVAL COUNTY

Kohler, Humble O. & R. Co. 37 15
Peters, Humble O. & R. Co. 1 ..... gas

SCHOOLFIELD—O'BYRNE

Hahl, C. E. Long (Shell) 3 120
Hahl, Magnolia Petroleum Co. 10 75
Hahl, Magnolia Petroleum Co. 11 75
Moody, Simpson Fell Oil Co. 7 50
Hahl, S. & O. Oil Co. 9 ..... abd

COLE POOL

Dinn, Allied Gas Co. (Shell) 1 ..... gas
Dinn, Allied Gas Co. (Shell) 2 ..... gas
Dinn, J. G. Mackay 2 ..... gas
Dinn, Simms Oil Co. 7 ..... gas

Wildcats

Hagist, Trussell & Partee 1 ..... abd

RANDADO FIELD—JIM HOGG COUNTY

Hinnant, Magnolia Petroleum Co. 1 ... abd

ALWORTH POOL

Garza, Alworth-Stevens 1 ..... abd

HENNE-WINCH-FARIS

Holbien, W. R. Shankle 3 ..... abd

Wildcats

Leyendecker, T. J. Conway 4 ..... abd
Yaguirre, R. E. Moore 1 ..... abd
Palacious, T. J. Conway 2 ..... abd

STARR

Wildcats

Guerra, The Texas Company 4 50

COLE POOL—WEBB COUNTY

Benavides, Houston Oil Co. H-1 ..... gas
Valdez, John J. O'Hern 2 ..... gas
Bruni, O. W. Killam 14 ..... gas
Bruni, O. W. Killam 15 ..... gas

MAGNOLIA—COLE POOL

Benavides, Cole Petroleum Co. 67 .... abd
Valdez, Magnolia Petroleum Co. 1 25

SCHOTT POOL

Guerra-Ochoa, Livingston & Payne 1.. abd

Wildcats

Moglia, L. W. Nelson 2 ..... abd
Bruni, Everett Suladie 1 ..... abd

HENNE-WINCH-FARISS—ZAPATA COUNTY

Martinez, Magnolia Petroleum Co. 5 ... gas

JENNINGS POOL

Cuellar, Killam-Duggan 10 150
Cuellar, Killam-Duggan 11 ..... gas
Jennings, South Texas Production Co. 7 abd

Wildcats

Vela et al, Hill et al 1 ..... abd
Trevino, Marts & Beavens ..... abd
Martinez, Magnolia Petroleum Co. 2 .. abd
Lopez, Shell Petroleum Co. 2 ..... abd

Wells completed 36
Production 560
Dry 17
Gas 11
Gas production 233,000,000

DARST CREEK—GUADALUPE COUNTY

Rand Miller, Kirby Petroleum Corp. 1.. 150
Thos. Dix, Magnolia Petroleum Co. 1.. 440
Thos. Dix, Magnolia Petroleum Co. 2.. 600
L. V. Echols, Mundine Investment Co. 1 abd
Thos. Dix, United North & South Dev. Co. 1 1,100

Wells completed 5
Production 2,290
Dry 1

AGUA DULCE FIELD—NUECES COUNTY

Ollie Purl, Agua Dulce O. & G. Co. and Houston Gulf Gas Co. 1 ..... gas

REFUGIO FIELD—REFUGIO COUNTY

Cemetry, Dr. H. E. Hewitt 2 250
Morgan-Shelly, Houston Gulf Gas Co. 2 100
Cummings, Houston Gulf Gas Co. 2 30
Tom Heard, Houston Gulf Gas Co. 3 .. gas
Fannie Heard, Houston Gulf Gas Co. 4 gas
Shelly, Houston Gulf Gas Co. 6 ..... gas
Shelly, Houston Gulf Gas Co. 8 300
F. B. Rooke, Houston Oil Co. F-2 .... gas
Wilson Heard, Houston Oil Co. 9 .... gas
Heard, Independent O. & G. Co. 1 315
J. Riley Heirs, Independent O. & G. Co. 5 494
J. F. N. Heard, Mission Drilling Co. 1.. gas
Shelly, Mission Drilling Co. 2 ..... gas
J. F. B. Heard, Marshall Eskridge 1 ... 250
Johnson, Morgan Oil Corp. 1 350
Strauch, Morgan Oil Corp. 1 400
Fox Heirs, Morgan Oil Corp. 2 700
City of Refugio, Morgan Oil Corp. 3 .. 600
Fox Heirs, W. L. Pearson Properties, Inc. 2 700
Murphy, Refugio Oil Corp. 2 660
Sefarino, Saxet Gas Co. 1 ..... gas
Clint Heard, Saxet Oil Co. 11 35
Clint Heard, The Texas Company 1 30
City of Refugio, Union Producing Co. 1 300
Fox, Union Producing Co. 2 ..... gas
Rooke, Union Exploration Co. B-2 100

Wells completed 26
Production 5,614
Gas 9
Gas production 285,000,000

MISCELLANEOUS

BASTROP COUNTY

Wildcats

Corbell, Humble O. & R. Co. 1 ..... abd
Goodman, B. W. Owens et al 1 ..... abd

BEXAR COUNTY

Wildcats

Beck, Guy G. Fisher 1 ..... abd
Watson, E. G. Potter (Allan Park) 1 . abd
Halberdier, W. C. Sutherland ..... abd

BROOKE COUNTY

Wildcats

Riley Allen, W. G. French 8 ..... abd

BEE COUNTY

Wildcats

Tipps, The Texas Company 1 ..... abd
Hicks, Nichols et al 2 ..... gas

CALDWELL COUNTY

Wildcats

Nell, Joe Bruner 1 ..... abd

FAYETTE COUNTY

Wildcats

Kempe et al, Muldoon Oil & Gas Co. 1. abd
Burke, W. J. Kelly 1 ..... abd

GONZALES COUNTY

Wildcats

Robinson, Finnell & Elam 1 ..... abd
Borrer, P. A. Hoffman et al 1 ..... abd
St. Clair, Marshall & Moore 1 ..... abd

GOLIAD COUNTY

Wildcats

Spangle, Humble O. & R. Co. A-1 ..... abd
George Ray, Union Producing Co. 3 ... 15

GUADALUPE COUNTY

Wildcats

Powers, All States Petroleum Co. 2 ... abd
Appling, J. O. Dore 1 ..... abd

MEDINA COUNTY

Wildcats

Saathoff, Carl Bros. 1 ..... abd

ADAMS GAS POOL—MEDINA COUNTY

Nixon, Jake Jarmon 1 ..... gas

MILAM COUNTY

Wildcats

Holman, E. L. Chapman 1 ..... abd
D. D. Fowler, Noach-McCarmack 1 .... abd
J. Bauer, I. P. Sessions 7 ..... abd

M'MULLEN COUNTY

Wildcats

Berry, Sun Oil Co. 1 ..... abd

NUECES COUNTY

Wildcats

Tompkins, Trinity Drillers & Sun 1 .. abd
F. C. Allen, Nueces River Basin Dev. Co. 1 ..... abd

WILSON COUNTY

Wildcats

Tummilson, R. M. Shearer et al 1 .... abd

First State Bank Stockdale, R. M. Shearer 1 ..... abd

Wells completed 28
Production 15
Dry 25
Gas 2
Gas production 5,000,000

NORTH CENTRAL TEXAS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas wells
Archer	43	853	29	..
Baylor	6	240	3	..
Brown	38	1,791	14	..
Callahan	9	345	6	..
Clay	4	107	1	..
Coleman	13	784	5	1
Cooke	9	34	7	..
Comanche	1	...	1	..
Eastland	18	448	10	2
Erath	2	...	..	2
Fannin	1	...	1	..
Foard	1	98	..	..
Jack	12	1,618	6	..
Montague	6	232	1	..
Palo Pinto	3	57	..	2
Shackelford	22	456	15	..
Stephens	6	30	4	1
Tarrant	1	...	1	..
Throckmorton	4	25	2	1
Wichita	29	1,153	15	..
Wilbarger	32	5,499	15	..
Young	34	1,258	19	..
Total, December	294	15,028	155	9
Total, November	406	20,729	212	14
Difference	112	5,701	57	5

Summary of Operations

County—	Rigs	Shut down	Drilling	Ttl.
Archer	10	6	29	45
Brown	13	8	19	40
Callahan	4	9	5	18
Coleman	9	4	23	36
Cooke	2	4	17	23
Clay	1	1	3	5
Eastland	7	9	15	31
Erath	1	3	5	9
Haskell	..	2	..	2
Jack	4	4	15	23
Montague	..	..	6	6
Palo Pinto	..	2	8	10
Shackelford	3	4	14	21
Stephens	1	4	12	17
Throckmorton	2	2	2	6
Wichita	2	2	33	37
Wilbarger	21	20	54	95
Young	11	8	43	62
Miscellaneous counties	5	17	15	37
Total, December	96	109	318	523
Total, November	91	124	276	491
Difference	5	15	42	32

ARCHER COUNTY
WELLS COMPLETED

Hemmie, J. C. Haynes 1 ..... dry
Hutcheson, F. Hutcheson 2 ..... dry
Lyles, United Prod. Co. & Perkins-Cullum 1 ..... dry
Neal, Consolidated Oil Co. of Texas and Hill 1 ..... dry
Wilson-B, Barnsdall Oil Co. 18 86
Turbeville-B, Burns & Long 1 ..... dry
Brown, J. M. Seaberry et al 1 12
Ford, E. J. Stump & Co. 1 ..... dry
Parkey, United Producers Co. 1 ..... dry
Horcky, W. D. Cline 1 ..... dry
W. O. Wright-B, Consolidated Oil Co. of Texas 2 ..... dry
Falls County School Land, F. P. Cullum et al 3 87
Kieke, Golding & Cochran 1 28
Williams, Peacock & Tedford 2 ..... dry
Hamilton, Perkins & Cullum 1 ..... dry
Williams, Perkins-Cullum & Parsons 1 dry
Falls County School Land, Prairie O. & G. Co. 2 7
Wilson-C, Barkley-Meadows & Riner Bailey 2 ..... dry
Wilson-?, L. T. Burns 4 ..... dry
Turbeville, Burns & Long 6 23
Miller, J. H. Howell 1 ..... dry
Dubose, L. T. Burns et al 1 ..... dry
Kunkel, Christie 1 ..... dry
McClure, Douglas Oil Co. 5 20
Richardson, W. R. Duke et al 1 148
Keike, Golding & Cochran 2 21
Lauster, M. & V. Oil Co. 4 ..... dry
Young-D, Pandem Oil Corp. 3 130
Kunkel, R. S. Reeder et al 6 96
Richardson, Sun Oil Co. 10 ..... dry
Kunkel, J. R. Williams et al 3 ..... dry
Taylor, Bridwell Oil Co. 1 ..... dry
McCrory Tr., Humble Oil & Refg. Co. 1 dry
Wolf, Geo. L. Pace et al 1 ..... dry
Lyles, Shappell Oil Co. 14 ..... dry
Mangold, United Prod. Co. & Consolidated Oil Co. of Texas 1 ..... dry
Wilson-L, United P. Co. & Perkins & Cullum 1 ..... dry
Kemp & Kempner, Block 75, W. C. Wallace 4 30
Falls County School Land, Continental Oil Co. 2 60
Kunkel, T. F. Hunter 1 ..... dry
Richardson, E. B. Lawson & W. R. Duke et al 2 105
Cockrell, Panhandle Refg. Co. 1 ..... dry
Ward, E. J. Stump & Co. 2 ..... dry

Wells completed 43
Production 853
Dry 29

BAYLOR COUNTY

Portwood, Consolidated Oil Co. et al 2.. 20
Portwood, Grisham & Barnsdall 1 95
Portwood, Consolidated Oil Co. et al 4 dry
Portwood-A, Barnsdall Oil Co. 1 ..... dry
Portwood, Consolidated Oil Co. et al 3.. 125
Portwood-A, Grisham & Barnsdall 1 .. dry

Wells completed 6
Production 240
Dry 4

BROWN COUNTY

Munselle, Buder, trustee 6 2
Prather, Curry 3 25
Belvin, Phil French 4 169
Cannon-A, Anna B. Gordon 1 2
Cannon-A, Anna B. Gordon 4 60
Hickman-B, Humble O. & R. Co. 4 .. 75
Kilgore-A, Humble O. & R. Co. 10 35
Kilgore-B, Humble O. & R. Co. 17 30
George, E. L. Smith Oil Co. 1 150
Boysen, A. D. Bruce 1 ..... dry
McDonald, Cranfill & Reynolds 2 .. .. dry
Martin, Humble O. & R. Co. 2 20
L. A. George, E. L. Smith Oil Co. 15 .. 150
W. S. Johnson, The Texas Company 5.. 115
L. C. Riordan, M. T. Anderson 1 4
McIntosh, Brown et al 1 ..... dry
Martin, Texcal Oil Co. 4 30
O. Pierce, Winsor et al 1 ..... dry
Munselle, Buder, trustee 8 ..... dry
Cannon-A, Anna B. Gordan 5 100
McHan, Hart Pet. Co. 1 ..... dry
Hickman, Michael, Gibson & Johnson 1 12
Whiteside, S. B. Owens, Inc. 1 42
George, E. L. Smith 30 150
George, E. L. Smith 31 150
Hickman, Young Bros., Alexander & Woodley Pet. Co. 23 120
Churchill, Gutzman & Aldrich 1 ..... dry
Evans, Prasky et al 1 ..... dry
Belvin, Phil French 5 200
Kilgore-B, Humble O. & R. Co. 18 35
Kilgore-B, Humble O. & R. Co. 19 .... dry
Turner, Mitcham & Preston 1 ..... dry
Shults, Prairie O. & G. Co. 2 15
Eddington-A, Williamson et al 1 ..... dry
Shields, Eppenauer 1 ..... dry
Riordan, Riordan et al 2 ..... dry
Wilson, Smith et al 1 ..... dry
Martin-B, Texcal Oil Co. 2 100

Wells completed 38
Production 1,791
Dry 14

CALLAHAN COUNTY

I. N. Jackson, Campbell et al 1 225
N. W. Gorsuch, Richard et al 1 .. .. dry
Allen, States Oil Corp. 1 ..... dry
Jackson, Campbell et al 2 ..... dry
Alexander, Continental Oil Co. 1 .... dry
Cavanaugh, Holden et al 2 70
Swafford, Hudson, Stewart & Robinson 1 ..... dry
Johnson et al, Mook-Texas Oil Co 3 .. 50
Alexander, Union Co. of Nevada 1 .... dry

Wells completed 9
Production 345
Dry 6

CLAY COUNTY

Byers & Co., J. F. Merrick et al 2 80
Landrum, Saxet Oil Co. 1 ..... dry
Evans et al, Belcher et al 6 6
Evans et al, R. T. Belcher et al 7 21

Wells completed 4
Production 107
Dry 1

COLEMAN COUNTY

Morris, Diana Oil Co. 1 200
Crowder, Prairie O. & G. Co. 1 ..... dry
Stewardson, Joines et al 2 ..... dry
Bartholemew, Lloyd Oil Corp. 1 150
Griffin, Eastland Oil Co. 1 ..... dry
Jameson, White Eagle O. & R. Co. et al 1 ..... dry
Sealy & Smith, McCamey et al 2 8
Newton, Texas-American Synd. 2 ..... gas
Crowder, Tower & McKanna 1 30
Gates, Atlantic Oil Prod. & Urban et al 1 ..... dry
Stewardson, Taylor-Link Oil Co. 2 .. 32
Bartholemew, Lloyd Oil Corp. 2 310
Bartholemew, Lloyd Oil Corp. 3 54

Wells completed 13
Production 784
Dry 5
Gas 1
Gas production 15,500,000

COOKE COUNTY

Franklin "Coker," Kewanee O. & G. Co. 2 ..... dry
Huggins, Coline Oil Co. 6 ..... dry
Pickett, Kewanee Oil & G. Co. 1 .. dry
Barrow, Bridwell Oil Co. 1 ..... dry
Poteet, Humble Oil & Refg. Co. 6 .. 29
West "Dill," Kewanee Oil & Gas Co. 1 dry
Felderhoff, Benson & Benson 1 ..... 5½
Wells, Fain-McGaha Oil Corp. 1 .... dry
Dennis, Kewanee O. & G. Co. 1 ..... dry

Wells completed 9
Production 34
Dry 7

COMANCHE COUNTY

Walker, Humble Oil & Refining Co. 1 dry

EASTLAND COUNTY

Harbin, Alworth, Trustee et al 2 2
Davis, Hopkins et al 2 ..... dry
Jones, Ed. Keough 1 148
August, Lone Star Gas Co. 1 ..... gas
Byrd, Meyers et al 1 ..... dry
Murrell et al, Whiteside Bros. 2 11
W. Johnston, Hickok P. & D. Co. 1 ... dry
Fleming, Hoffer Oil Corp. 1 ..... dry
A. J. Hazel, C. M. Root 1 40
B. Owens, Southern O. & P. Co. et al 1 dry
W. T. Hitson, The Texas Company & Warner-Quinlan Co. 1 ..... dry
Foster-B, Hoffman & Page Co. 4 .. 27
Dakan et al, Arab Gasoline Corp. 1 .. gas
Kincade et al, Bearman et al 1 220
Jones, Hopkins et al 2 ..... dry
Hitson, Eastland Oil Co 1 ..... dry
Hightower, Texwa Oil Co. 1 ..... dry
Turner, Texwa Oil Co. & Kirk 5 ..... dry

Wells completed 18
Production 448
Dry 10
Gas 3
Gas production 4,316,000

FRATH COUNTY

E. B. Blanton, Frazier, Watson et al 1 gas
C. R. Alexander, Mingus Gas Co. 1 .. gas

Wells completed 2
Gas 2
Gas production 2,270,000

FANNIN COUNTY

Owens, Imperator Oil Corp. 1 ..... dry

FOARD COUNTY

J. K. French, Shell & Fain-McGaha Oil Corp. 1 98

JACK COUNTY

Box, L. C. Harper 7 145
Box, L. C. Harper 8 115
Loving, Llewellyn & Knight 2 ..... dry
Eaton & Daniels, Panhandle Refg. Co. 2 265
McKelvey-A, Panhandle Refg. Co. 1 ... 448
S. J. Price, B. C. Gilmore et al 1 ..... dry
Ezell, Republic Prod. Co. 1 300
Enloe, Seaboard Oil & Gas Co. 1 ..... dry
Lindsey, Buttram Pet. Co. 1 ..... dry
Morrow, Christie Bros. 1 ..... dry
Kuykendall, Grayback Dev. Co. 1 .... dry
Box, Shaw Oil Co. 3 345

Wells completed 12
Production 1,618
Dry 6

MONTAGUE COUNTY

Howard, Continental Oil Co. 26 .. .. dry
Cunningham, Continental Oil & Bridwell Oil Co. 2 121
Henley, The Texas Company 2 38
Cunningham et al, Barnsdall Oil Co. 3 35
Cunningham, Lesh & McCall 1 28
Cunningham et al-A, The Texas Company 4 10

Wells completed 6
Production 232
Dry 1

PALO PINTO COUNTY

Strawn Coal Co., Burton-McKee 7 .. gas
Stuart & Son, T. P. Coal & Oil Co. 163 57
Smith, Walker, Frank 1 ..... gas

Wells completed 3
Production 57
Gas 2
Gas production 2,768,000

SHACKELFORD COUNTY

Nail, Sec. 66, Carter Dev. Co. 1 ..... dry
Clark, Hart & Gist 2 ..... dry
Newell, Sec. 12, Manning et al 1 ..... dry
Nail, Moutray Oil Co. 3 ..... dry
Morris & Buie, Sedgwick O. & G. Co. & Owens 2 ..... dry
Davis, Union Oil Co. of Nevada 1 .... dry
J. B. Matthews, Cranfill & Reynolds 1 dry
J. B. Matthews, J. W. Ducker 1 30
J. B. Matthews-B, Dull-Earls Texas Co. 4 200
Morris & Buie, Jane L. Hamon Jr. 1 dry
Deats, Hart & Gist 1 ..... dry
J. B. Matthews, Tannehill et al 7 40
J. B. Matthews-C, Vacuum Oil Co. 6 .. 66
Dawson et al, Sec. 182, Chil French 1 dry
Alexander, Frizzell & Smalley 3 ..... dry
Clark, Hart & Gist et al 3 ..... dry
Newell, Tannehill 28 30
Macon, Big State Oil Co. 1 ..... dry
Clark, Callihan & Carter Dev. Co. 1 .. 52
Clark, Coleman & Stiles et al 1 38
Clark Est., Hart & Gist 4 ..... dry
Davis, Hughes et al 2 ..... dry

Wells completed 22
Production 456
Dry 15

STEPHENS COUNTY

Hatton, Byers Oil & Gas Co. 1 ..... dry
Litton, J. B. Dale 4 ..... dry
Parks-B, The Texas Company 4 ..... gas
Hamil, Hickok P. & D. Co. 3 ..... dry
Swenson, Grantor Oil Co. 37 30
Langford, Nunn & Herman 1 ..... dry

Wells completed 6
Production 30
Dry 4
Gas 1
Gas production 2,000,000

TARRANT COUNTY

Wright, Phillips et al 1 ..... dry

THROCKMORTON COUNTY

Upshur County School Land, Shappell Oil Co. 5 25
Lee, Cranfill & Reynolds 4 ..... dry
Lee, Cranfill & Reynolds 5 ..... gas
Upshur County School Land, Shappell Oil Co. 7 ..... dry

Wells completed 4
Production 25
Gas 1
Dry 2
Gas production 1,000,000

WICHITA COUNTY

Morgan-Couper, American Refg. Co. 1.. 20
Waggoner Bros., Culbertson Co. 63 5
Waggoner Bros., Culbertson Co. 64 .... dry
Munger, H. Hobbs 1 140
Waggoner Bros.-C. T. F. Hunter 10 .. dry
Waggoner Bros., Stump et al 2 ..... dry
Donehoo, Magnolia Pet. Co. 16 ..... dry
Chilson, E. J. Stump 1 ..... dry
Kemp & Kempner-A, Arkansas Fuel Oil Co. 23 175
Kemp & Kempner-A, Arkansas Fuel Oil Co. 24 300
Gibson Everts & Jamison 3 27
B. Ramming, Magnolia Pet. Co. 8 10
Burnett et al-A, Panhandle Refg. Co. 13 ..... dry
Robinson-Admx., Sheldon & Ven-Mex 1 96
Whittenbach, Sheldon & Ven-Mex 3 .. dry
Waggoner, The Texas Company 370 .. 23
W. F. Hamilton, Hamer & Chilton 1 .. dry
Wighley, Merrick Drilling Co. 1 ..... dry
Wilkerson, Mid-Cont. Hold. Corp. 7 .. dry
Wilkerson, Mid-Cont. Hold. Corp. 8.. dry
Wilkerson, Mid-Cont. Hold. Corp. 9.. 7
Kemp & Kempner-B, Arkansas Fuel Oil Co. 33 56
Kemp & Kempner-B, Arkansas Fuel Oil Co. 34 50
Waggoner Bros., Culbertson Co. 65 ... dry
Taylor, Humble O. & R. Co. 18 150
T. W. Roberts, O'Neil 6 ..... dry
Gibson, Sheldon & Lowry 1 ..... dry
Waggoner, Turman Oil Co. 16 94
Griffin, Wilson Drilling Co. 1 ..... dry

Wells completed 29
Production 1,153
Dry 15

WILBARGER COUNTY

Dill, Consolidated Oil Co. 1 ..... dry
Waggoner-L, Fain McGaha Oil Corp. 15 125
Waggoner-W, Fain McGaha Oil Corp. 21 84
Waggoner-E, Shaw Oil Co. 7 60
Waggoner, The Texas Company 367 .. dry
Waggoner-G, Dixie Oil Co. 1 ..... dry
Waggoner-A, Empire Gas & Fuel Co. 18 dry
Waggoner-B, Empire Gas & Fuel Co. 9 dry
Waggoner-C, Empire Gas & Fuel Co. 18 101
Waggoner-W, Fain-McGaha Oil Corp. 20 210
Waggoner-DD, Fain-McGaha Oil Corp. 3 ..... dry
Waggoner-K, Golding & Cochran et al 3 90
M. J. George, Hi-Land Oil Co. 2 130
Waggoner-A, Lion O. & R. Co. 1 .... dry
Waggoner, Proctor 1 ..... dry
Waggoner-E, Staley-Wynne & Co. 6 .. 80
Waggoner-AA, Staley-Wynne & Co. 1.. 40
Waggoner, The Texas Company 365 .. dry
Waggoner-F, Ven-Mex Oil Co. 4 104
Waggoner-J, Waggoner Refg. Co. 14 .. 160
S. A. Dill et al, Zenith Oil Co 1 125
Waggoner-C, Barkley & Meadows 11 .. 72
Waggoner-C, Bradstreet Co. 4 45
Waggoner, Davis Oil Corp. 4 1,063
Waggoner-B, Empire Gas & Fuel Co. 25 70
Waggoner-C, Empire Gas & Fuel Co. 17 dry
Waggoner-L, Fain-McGaha Oil Corp. 16 234
Waggoner-W, Fain-McGaha Oil Corp. 23 137
Waggoner-B, Lewis Prod. Co. 10 ..junked
Waggoner, Massie et al 1 ..... dry
Waggoner-E, Staley Wynne & Co. 8 .. 150
Waggoner-P, Waggoner Refg. Co. 2 .. 920
Waggoner-A, Empire Gas & Fuel Co. 19 64
Waggoner-B, Empire Gas & Fuel Co. 26 75
Waggoner-W, Fain-McGaha Oil Corp. 22 70
Waggoner-AA, Fain McGaha Oil Corp. 5 55
Dill, Hammond 1 ..... dry
Lutz, North Vernon Oil Co. 1 ..... dry
Waggoner-E, Shaw Oil Co. 8 55
Waggoner-M, Waggoner Refg. Co. 5 .. dry
Waggoner-P, Waggoner Refg. Co. 2 .. 680
Waggoner-P, Waggoner Refg. Co. 4 .. 500

Wells completed 32
Production 5,499
Dry 15

YOUNG COUNTY

Vanmeter, Riggs & Williams 1 ..... dry
Cullers, Wise & Porterfield 3 25
Casey, Wootten & Reed 2 ..... dry
Jarnigan, Atlantic Oil Prod. Co. 1 .... dry
McLaren, Shaw et al 1 49
Roark, Shaw et al 1 ..... dry
Deitrich, Perkins & Cullum 1 175
Deitrich, Sun Oil Co. 15 150
M. A. Hoffman, The Texas Company 1 dry
Criswell, Hines Oil Co. et al 1 10
Cullers, Bridwell Oil Co. 6 ..... dry
Kunkel, Goldsmith & King Royalty Co. 6 196
Bolley, Junker 1 ..... dry
Kunkel, Madden & Junker 1 ..... dry
Deitrich, Perkins & Cullum 2 100
McCarry, Pet. Prod. Co. 1 ..... dry
Dean, Richardson Oil Corp. 2 10
Miller, Wise & Jackson et al 1 ..... dry
Hill, Wolf 2 60
Drum, Alexander 1 ..... dry
Petty & Miller, Allday 1 ..... dry
Mullinax, Beavers & Moran 1 ..... dry
Cullers, Bratcher 3 35
Campbell, Continental & Underwood 4 dry
Rogers, Goldsmith 1 ..... dry
Kunkel, Goldsmith & King Royalty Co. 7 165
Dean, Richardson Oil Corp. 2 10
Deitrich, Sun Oil Co. 16 150
Suite, Western Prod. Co. 1 ..... dry
Cullers, Wise & Jackson 6 18
Casey, Wootten & Reed 3 ..... dry
Fisher, Wootten & Reed 2 ..... dry
Sedden, Lindsey et al 1 ..... dry
Whittenburg, Mann et al 3 105

Wells completed 34
Production 1,258
Dry 19

PANHANDLE FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	3	...	1	2
Cochran	1	...	1	..
Donley	1	...	1	..
Gray	20	19,997	1	4
Hutchinson	2	330	..	..
Wheeler	6	...	1	5
Total, December	33	20,327	5	11
Total, November	55	17,279	10	12
Difference	22	3,048	5	1

Summary of Operations

County—	Rigs	shut down	Drilling	Ttl.
Carson	4	8	14	26
Gray	10	16	38	64
Hutchinson	2	5	8	15
Moore	1	1	4	6
Wheeler	3	..	10	13
Miscellaneous counties	2	9	5	16
Total, December	22	39	79	140
Total, November	23	56	67	146
Difference	1	17	12	6

WELLS COMPLETED
CARSON COUNTY

C. R. Garner, Stubblefield et al 1 .... gas
C. E. Deahl, Empire Gas & Fuel Co. 3.. gas
H. Schafer, Skelly Oil Co. 21 ..... dry

Completions 3
Dry holes 1
Gas wells 2
Gas production 51,000,000

COCHRAN COUNTY

C. A. Slaughter, Continental Oil Co. 1-A dry

DONLEY COUNTY

W. J. Lewis, Southland Oil Co. 1 ..... dry

GRAY COUNTY

A. Chapman, Humble Oil & Ref. Co. 1. gas
A. Chapman-B, The Texas Company 3.. 412
J. B. Bowers, Magnolia Pet. Co. 8 775
C. T. Taylor-A, Hinerman Bros. 1 ..... dry
McCutcheon-Saunders, Shamrock Oil & Gas Co. 2 105
S. W. McLarty-B, The Texas Company 3 gas
D. Pope, Guernsey Oil Co. 1 50
S. W. McLarty, Danciger O. & R. Co. 1.. gas
J. S. Morse, McAuley et al 2 225
A. Chapman-A, Plains Drilling Co. 1... gas
G. H. Saunders, The Texas Company 14 27
W. Jackson, Humble O. & R. Co. 4 2500
J. H. Palmer, Humble O. & R. Co. 1 ... 45
J. B. Bowers, Magnolia Pet. Co. 7 700
Magnolia Pet. Co. No. 227, Magnolia Pet. Co. 4 150
J. H. Palmer, Phillips Pet. Co. 6 4700
Combs & Worley, The Texas Company 3 2400
Combs & Worley, The Texas Company 5 4853
Cook-Faulkner, Operators Oil Co. 3 ...2905
W. Jackson, Phillips Pet. Co. 6 150

Completions 20
Production 19,997
Dry holes 1
Gas wells 4
Gas production 43,000,000

HUTCHINSON COUNTY

Johnson Brothers-D, Continental Oil Co. 1 285
Johnson Brothers (Florence), Phillips Pet. Co. 6 45

Completions 2
Production 330

WHEELER COUNTY

Ackley, Vaughan et al 3 ..... dry
J. Stuffer, Lone Star Gas Co. 1 ..... gas
L. Laycock, Magnolia Pet. Co. 2 ..... gas
Gooch, Upham Gas Co. 7 ..... gas
J. W. Curry, Wischkamper et al 1 .... gas
Cuddeback, Upham Gas Co. 1 ..... gas

Completions 6
Dry holes 1
Gas wells 5
Gas production 188,000,000

WEST TEXAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas wells
Borden	1	...	1	..
Brewster	1	...	1	..
Crane	9	3,358	..	..
Concho	1	...	1	..
Fisher	2	480	1	..
Garza	1	...	1	..
Glasscock	4	3,814	..	..
Howard	10	4,215	..	..
Hudspeth	1	...	1	..
Irion	2	15	1	..
Jones	1	...	1	..
Loving	2	155	..	..
Pecos	41	63,886	12	..
Reeves	1	...	1	..
Schleicher	1	...	1	..
Sutton	2	...	2	..
Terrell	1	...	1	..
Ward	2	185	..	..
Winkler	2	555	..	..
Total, December	85	76,663	25	..
Total, November	115	115,452	42	..
Difference	30	38,789	17	..

Summary of Operations

County—	Rigs	Shut down	Drilling	Ttl.
Crane	9	..	6	15
Crockett	1	2	4	7
Fisher	..	1	4	5
Glasscock	3	..	7	10
Howard	11	6	35	52
Irion	2	3	5	10
Jones	..	3	3	6
Pecos	14	11	47	72
Reagan	2	1	11	14
Runnels	..	..	2	2
Upton	3	1	5	9
Ward	5	..	15	20
Winkler	..	2	4	6
Miscellaneous counties	5	44	38	87
Total, December	55	74	186	315
Total, November	68	88	170	326
Difference	13	14	16	11

WELLS COMPLETED

Borden County

Wells completed—
L. E. Long, Texas & Wheeler 1 ..... dry

Brewster County

J. M. Poncey, Clayton Williams et al 1 dry

Crane County

University-F, Simms & Atlantic 2 200
University-I, Tidal Oil Co. 2 456
Dewell-University, Church & Fields 4.. 1,560
University-D, Humble Oil & Refg. Co. 2 103
Beasley, The Texas Company 2 227
University, The Texas Company 3 237
University, Magnolia Pet. Co. & Hardwick 17 315
E. S. Hughes, Republic Prod. Co. 1 .. 60
University-D, Tidal Oil Co. 2 200

Wells completed 9
Production 3,358

Concho County

Mosley, Lamb et al 1 ..... dry

Fisher County

Steele, Mid-West Expl. Co. 1 480
Veatch, H. Riley 1 ..... dry

Wells completed 2
Production 480
Dry 1

Garza County

Floyd Tuffing, Thompson et al 1 ..... dry

Glasscock County

R. C. Coffee, Lion Oil Refining Co. 2.. 500
R. C. Coffee, Shell Pet. Corp. 1 1,154
Hart Phillips, Sun Oil Co. 4 1,680
R. C. Coffee, E. L. Smith Oil Co. 2 ... 480

Wells completed 4
Production 3,814

Howard County

Kloh & Rumsey, Continental Oil Co. 5.. 960
Settles-A, Group No. 1 & Continental Oil Co. 7 1,680
H. R. Clay, Merrick & Lamb 10 55
A. J. Hooks, Pure Oil Co. 2 50
Dora Roberts, Lse. 2, The California Co. 8 200
H. R. Clay-F, Continental Oil Co. 3 .. 93
A. J. Hooks, Godley Oil Co. 7 50
Dora Roberts, Ward Oil Co. 17 86
H. R. Clay, Green Oil & Ref. Co. 3... 195
W. R. Settles-A, Group No. 1 and Continental Oil Co. 8 840

Wells completed 10
Production 4,215

Hudspeth County

Sarah J. Thaxton, Geo. E. Richardson et al 1 ..... dry

Irion County

J. M. Nutt, Banner Oil Co. 1 ..... dry
J. M. Nutt, Cromwell et al 1 15

Jones County

Swenson, Adsit et al 1 ..... dry

Loving County

W. W. Hubbard, Lockhart & Co. 14 .. 80
R. L. Allen, Lockhart & Co. 3 75

Wells completed 2
Production 155

Pecos County

Pecos Valley Oil Co., Cowboy Evans 1 6
University-A, Landreth Prod. Corp. 2.. 562
University-C, Landreth Prod. Corp. 1.. 32
University-B, Landreth Prod. Corp. & World Oil Co. 5 1,432
Smith-Taylor, Mid-Kansas O. & G. Co. 19 4,104
Pecos Valley Oil Co., Pecos Co. Crude Oil Pur. Co. 3 7
University-C, Shell Pet. Corp. 2 165
University-C, Shell Pet. Corp. 3 765
University-C, Shell Pet. Corp. 4 265
University, Taylor-Link Oil Co. 5 270
M. A. Smith, The California Co. 3 .. 25
University, C. A. Toler 1 ..... dry
University, Tower & McKanna 1 .... dry
R. G. Heiner Est., K. A. Crowley 1 .... dry
University-D, Landreth Prod. Corp. 1.. 42
University-F, Landreth Prod. Corp. & Henshaw Bros. 1 257
Mrs. M. A. Smith-C, McMan Oil & Gas Co. 10 250
I. G. Yates-A, McMan Oil & Gas Co. 32 48,720
I. M. Ramsey, Phillips Pet. Co. 4 96
University-B, Sun Oil Co. 1 ..... dry
University, Taylor-Link Oil Co. 8 120
University, World Oil Co. 1 39
Mrs. F. E. Forborg, Cardinal Oil Co. 2 3
J. A. McDonald-B, Landreth Prod. Corp. 1 ..... dry
University-H, Landreth Prod. Corp. 2 dry
University-G, Landreth Prod. Corp. & Henshaw Bros. 3 147
University-B, Landreth Prod. Corp. & World Oil Co. 6 557
State Land, Rector Oil Co. 1 ..... dry
University, Taylor-Link Oil Co. 2 100
J. H. Tippett, The California Co. 2 .. dry
J. K. P. Campbell, The Texas Company et al 1 65
Cordova Union Land Co., F. P. Zoch et al 1 ..... dry
Jas. Power, H. T. Odnell 1 ..... dry
W. Courtney, Phillips Pet. Co. 3 185
Mrs. M. A. Smith, Humble O. & R. Co. 12 1,600
C. J. Price, Jay Hawk Oil Co. 1 ..... dry
University-E, Landreth Prod. Corp. & Henshaw Bros. 3 192
University-F, Landreth Prod. Corp. & Henshaw Bros. 2 47
Merrick & Bristow, J. L. Neville 1 .... dry
Mrs. M. A. Smith-C, McMan O. & G. Co. 9 65
Mrs. M. A. Smith, Lse. 1, Sec. 27, The California Co. 5 3,768

Wells completed 41
Production 63,886
Dry 12

Reeves County

A. A. Kinney et al, Mack Best et al 1.. dry

Schleicher County

Louis Tisdale, Fort McKavett Co. 1... dry

Sutton County

C. A. Holman, Phillips Pet. Co. 1.... dry
Allison, L. G. Priest 1 ..... dry

Terrell County

Bassett, Milham Expl. Co. 1 ..... dry

Ward County

S. F. Hayzlett, Atlantic & Delmar 4... 100
S. F. Hayzlett, Atlantic & Delmar 5... 85

Wells completed 2
Production 185

Winkler County

E. G. Hutchings T-90, Southern Crude Oil Pur. Co. 4 283
T. G. Hendrick-D, Humble Oil & Refining Co. 1 272

Wells completed 2
Production 555

ARKANSAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ashley	1	0	1	0	0	1	1
Clark	0	0	0	0	0	1	1
Cleburn	0	0	0	0	0	2	2
Columbia	0	0	0	0	1	1	2
Drew	0	0	0	0	0	1	1
Faulkner	0	0	0	0	1	0	1
Garland	0	0	0	0	0	1	1
Grant	0	0	0	0	0	1	1
Johnson	0	0	0	0	0	1	1
Little River	0	0	0	0	0	2	2
Logan	0	0	0	0	1	0	1
Madison	0	0	0	0	0	1	1
Nevada	0	0	0	0	1	1	2
Ouachita	10	190	3	0	1	13	14
Pike	0	0	0	0	0	1	1
Pope	0	0	0	0	0	1	1
Prairie	0	0	0	0	0	1	1
St. Francis	0	0	0	0	0	1	1
Union	5	75	3	0	3	15	21
Van Buren	0	0	0	0	0	1	1
Washington	0	0	0	0	0	3	3
White	0	0	0	0	0	1	1
Total Dec.	16	265	7	0	5	53	61
Total Nov.	19	730	10	2	11	52	63
Difference	3	465	3	2	3	1	2

WELLS COMPLETED

ASHLEY COUNTY

10-19-4 McGarry, J. G. Marcum, tr. 1.. dry

OUACHITA COUNTY

23-15-16 H. Primm, J. E. Crosbie 4.... 25
25-15-16 Robertson, J. E. Crosbie 8 ... 25
36-15-16 McKenzie, Oil Fields Corp. 10. 15
34-15-15 Clayton, Phillips Pet. Co. 3 ... 25
26-15-18 A. A. Wilson, Pure Oil Co. 1 . dry
34-15-15 Woods, Skelly Oil Co. 5 ..... dry
27-15-15 Watts, Southern Prod. Co. 1-A 35
26-15-16 Arnold, Standard Oil Co. 13-B 35
34-15-15 Powell, Standard Oil Co. 9 .. 30
12-15-19 Booth, Wesson et al ..... dry

Wells completed 10
Production 190
Dry 3

UNION COUNTY

5-17-12 Union Sawmill fee, Federal Pet. Co. 1 ..... dry
35-15-16 J. O. Spahr, Foster et al ..... abd
9-16-15 Murphy, Imperial O. & G. Prod. 4 60
2-16-15 H. Murphy, E. M. Jones 1 ... 15
34-19-18 First Nat. Bank, T. J. Woodley 1 ..... abd

NORTH LOUISIANA

Summary of Field Operations

	Comp.	Prod.	Dry	Gas*	Rigs	Drlg.	Ttl.
Bossier	5	510	0	3	9	15	24
Caddo	14	382	8	0	6	18	24
Catahoula	0	0	0	0	0	1	1
Claiborne	0	0	0	0	1	3	4
DeSoto	2	0	2	0	2	4	6
Franklin	0	0	0	0	0	2	2
LaSalle	2	50	1	0	1	5	6
Morehouse	5	0	1	4	4	4	8
Natchitoches	0	0	0	0	0	3	3
Ouachita	8	0	1	7	11	13	24
Rapides	0	0	0	0	0	1	1
Red River	2	0	2	0	1	4	5
Richland	11	0	1	10	7	20	27
Sabine	5	165	3	0	10	8	18
Webster	2	40	0	1	4	11	15
Union	8	0	2	6	1	3	4
West Carroll	0	0	0	0	1	0	1
Total Dec.	64	1,147	21	31	58	115	173
Total Nov.	69	8,345	20	32	57	126	183
Difference	5	7,198	1	1	1	11	10

*Gas production: Bossier, 29,586,000; Morehouse, 15,824,000; Ouachita, 14,929,000; Richland, 226,662,482; Webster, 31,196,000; Union, 29,527,638; total, 347,725,120.

WELLS COMPLETED

BOSSIER PARISH

31-23-11 Bollinger, Del.-La. Dev. Co. 5 45
12-17-12 T. A. Lawrence, La. G. & F. 1 gas
24-17-12 Murff, La. G. & F. Co. 1 .... gas
24-17-12 Murff, La. G. & F. Co. 2 .... gas
30-23-11 Peyton, Muslow Oil Co. 1 510

Wells completed 5
Production 555
Gas 2
Gas production 29,586,000

CADDO PARISH

11-20-15 Pender, Arrow Oil Synd. 1 ... dry
15-21-15 Spell, Double II Oil Co. 12 .. 135
10-19-14 Sentell, Fitzsimmon Drlg. Co. 1 abd
34-21-16 Levee Board, Gulf Ref. 21-A . 50
20-19-14 Oden, Haynes Bros. 2 ..... dry
24-19-15 Levee Board, Lide et al 1 .... dry
17-19-14 Hunter, Ohio Oil Co. 4 ..... abd
10-19-14 Dickson, S. T. Onyett, tr. 1 .. 35
23-19-14 Pittman, Planters Oil Co. .... dry
15-20-15 Hunsicker, Simplex Oil Co. 7.. 50
16-19-14 School, Standard Oil Co. 4 .. 30
8-19-14 Hunter, The Texas Co. 3 ..... dry
9-19-14-Sentell, The Texas Co. 2 32
26-21-16 Levee Board, J. C. Tippet 1.. dry

Wells completed 14
Production 382
Dry 8

DE SOTO PARISH

23-12-15 Tull, P. J. Becker, tr. 1 ..... dry
33-13-16 Ramsey, Longstreet Synd. 1 .. dry

LA SALLE PARISH

7-10-2e Hardtner, Air Lift Oil Co. 8-A 50
18-10-2e S. J. Winberry, Gardner, Brown & Harter 1 ..... dry

MOREHOUSE PARISH

2-20-4 Feazel, Bahan & Bahan 2 .... gas
18-20-5 Bowles, J. S. Harkness 11 .... gas
33-22-8 Louisville Cooperage Co., Rainbow Oil Co. 1 ..... abd
2-20-4 Tensas, Southern Carbon Co. 12 gas
13-20-4 U. S. Gov't., Southern Carbon 1 gas

Wells completed 5
Gas 4
Gas production 15,824,000

OUACHITA PARISH

13-18-3 Albright, Austin & Jordan 1.... gas
49-18-4 S. Johnson, Chauvin Gas Co. 2 gas
35-20-4 Cole, New Process Carbon Co. 2 gas
6-18-5 Burke est., Pipes & Mack 1 ... gas
13-19-4 Fee, Southern Carbon Co. 54 .. dry
8-18-4 W. Va. Timber Co., Sho-Van Gas Products Co. 2 ..... gas
42-18-4 Kate Cole, Trousdale & Wright 2 ..... gas
5-18-4 W. Va. Timber Co., W. Va. O. & G. Co. 9 ..... gas

Wells completed 8
Gas 7
Gas production 14,929,000

MISSISSIPPI

Summary of Field Operations

	Rigs	Drg.	Ttl.
Alcorn	0	1	1
Chickasaw	0	1	1
Harrison	1	0	1
*Hinds	1	2	3
Humphreys	0	1	1
Lafayette	1	0	1
Lauderdale	1	2	3
Lincoln	0	1	1
Monroe	0	3	3
Rankin	0	1	1
Warren	0	1	1
Yalobusha	1	1	2
Yazoo	1	0	1
Total December	6	14	20
Total November	6	15	21
Difference	0	1	1

*Hinds County, one completion, fresh water.

MISSISSIPPI
WELLS COMPLETED
HINDS COUNTY

29-6-4 Fee, Southern Christian Institute, 1 (F. W.) ..... dry

ALABAMA

Summary of Field Operations

	Rigs	Drg.	Ttl.
Lamar	0	1	1
Sumpter	0	1	1
Marion	1	0	1
Washington	0	2	2
Total December	1	4	5
Total November	1	5	6
Difference	0	1	1

MISSOURI

Summary of Operations

	Comp.	Prod.	Dry	Rigs	Drlg.	Ttl.
St. Louis	0	0	0	0	1	1

GULF COAST FIELDS

Summary of Field Operations

Southeast Texas

Field—	Comp.	Prod.	Abd.	Gas	Rigs	Drlg.	Ttl.
Barbers Hill	11	5,597	2	0	3	19	22
Batson	2	9	0	0	0	1	1
Big Creek	4	12,925	0	0	0	2	2
Blue Ridge	1	20	0	0	1	2	3
Boling	0	0	0	0	0	1	1
Clay Creek	2	82	0	0	0	2	2
Damon Mound	0	0	0	0	1	1	2
DeWalt	6	1,995	0	0	3	3	6
Goose Creek	2	30	1	0	1	1	2
High Island	0	0	0	0	0	1	1
Hull	7	4,200	0	1	0	10	10
Humble	6	495	4	0	4	12	16
Liberty	3	2,280	0	0	1	3	4
Nash	0	0	0	0	0	1	1
North Dayton	1	3,600	0	0	1	0	1
Orange	1	5	0	0	0	2	2
Orchard	1	0	1	0	0	1	1
Pierce Junction	6	5,600	3	0	0	12	12
Raccoon Bend	10	3,360	0	0	4	16	20
Refugio	15	3,842	0	6	4	18	22
Saratoga	0	0	0	0	0	1	1
Sour Lake	0	0	0	0	0	3	3
Spindletop	7	1,110	3	0	1	9	10
West Columbia	3	1,100	2	0	0	2	2
Miscellaneous	26	9,807	19	1	4	34	38
Total Dec.	114	56,057	35	8	28	160	188
Total Nov.	141	50,538	44	12	29	158	187
Difference	27	5,519	9	4	1	2	1

South Louisiana

Bayou Boulion	1	0	1	0	1	1	2
Edgerly	1	1,300	0	0	2	1	3
Hackberry	3	2,000	2	0	1	4	5
Jennings	2	740	0	0	0	3	3
Lockport	1	0	0	1	0	2	3
Sorrento	1	0	1	0	0	1	1
Starks	1	100	0	0	0	2	2
Sulphur	2	1,400	1	0	1	2	3
Sweet Lake	1	0	1	0	0	1	1
Vinton	1	5	0	0	0	5	5
Miscellaneous	9	0	9	0	6	22	28
Total Dec.	23	6,045	15	1	11	44	55
Total Nov.	37	8,158	23	0	11	44	55
Difference	14	2,113	8	1	0	0	0

Gulf Coast

Total Dec.	137	62,102	50	9	39	204	243
Total Nov.	178	58,516	67	12	40	202	242
Difference	41	3,586	17	3	1	2	1

WELLS COMPLETED

BARBERS HILL—CHAMBERS COUNTY

Wilburn, Mills Bennett Production Co. 1 1000
Smith, Mills Bennett Production Co. 4.2000
Wilburn, Gulf Production Co. 1 350
Kirby, Humphreys Corp. 6-B ..... abd
Scott, Humphreys Corp. 1 ..... abd
Higgins, Humphreys Corp. 1 20
Wilburn, Sun Oil Co. 1 20
McKinney, Sun Oil Co. 1 22
Woodward, Yount Lee Oil Co. 4 600
Woodward, Yount Lee Oil Co. 5 385
Phillips, Yount Lee Oil Co. 1 1200

Wells completed 11
Production 5597
Abandoned 2

BATSON—HARDIN COUNTY

Bates, East Batson Oil Co. 8 5
Paraffine, Paraffine Oil Co. 82 4

Wells completed 2
Production 9

BIG CREEK—FORT BEND COUNTY
Davis, Gulf Production Co. 38 3000
Davis, Gulf Production Co. 45 150
Davis, Gulf Production Co. 57 775
Fee, The Texas Company 3 9000
Wells completed 4
Production 12,825
BLUE RIDGE—FORT BEND COUNTY
Davison, Sinclair Oil & Gas Co. 5 20
CLAY CREEK—WASHINGTON COUNTY
Hunt, Sun Oil Co. 4 50
Schlottman, Sun Oil Co. 2 32
Wells completed 2
Production 82
DEWALT—FORT BEND COUNTY
Hamner fee, Humble Oil & Refining Co. 8 200
Sugarland, Humble Oil & Refining Co. 11 250
Sugarland, Humble Oil & Refining Co. 12 45
Brazos, Humble Oil & Refining Co. 12 330
Camp, Humble Oil & Refining Co. 9 670
Nelson, Humble Oil & Refining Co. 7 500
Wells completed 6
Production 1995
GOOSE CREEK—HARRIS COUNTY
Ashbell—Smith, Humble Oil & Refining Co. 19 30
Simms—Smith, Humble Oil & Refining Co. 76 ..... abd
Wells completed 2
Production 30
Abandoned 1
HULL—LIBERTY COUNTY
Phoenix, Gulf Production Co. 76 1400
Hooks—Spell, Humble Oil & Refining Co. 11 550
Hooks—Spell, Humble Oil & Refining Co. 12 500
Dolbear, Republic Production Co. 56 1500
Dolbear, Republic Production Co. 7 200
Dolbear, Republic Production Co. 132 60
Hannah, The Texas Company and Vacuum Oil Co. 7 ..... gas
Wells completed 7
Production 4210
Gas 1
HUMBLE—HARRIS COUNTY
Cezeaux, Continental Oil Co. 1 ..... abd
Perkins, Gardner Oil 1 ..... abd
Fee, Morris Investment Co. 1 ..... abd
Ward, Harvey Smith 2 350
House, The Texas Company 23 ..... abd
Stevenson, The Texas Company 41 145
Wells completed 6
Production 495
LIBERTY—LIBERTY COUNTY
Fee, Abercrombie & Harrison 4 60
Mitchell, Sun Oil Co. 52 2000
Mitchell, Sun Oil Co. 53 220
Wells completed 3
Production 2280
NORTH DAYTON—LIBERTY COUNTY
Bladerack, Harrison Oil Co. 1 3600
ORANGE—ORANGE COUNTY
Granger, Sinclair Oil & Gas Co. 5 5
ORCHARD—FORT BEND COUNTY
Moore, Gulf Production Co. 19 ..... abd
PIERCE JUNCTION—HARRIS COUNTY
Fitzsimmons, J. F. Barron 3 ..... abd
Whitehead, Anderson & Plummer 6 700
Dooley, Navarro Oil Co. and Texas Exploration Co. 17 1700
Settegast, Rio Bravo Oil Co. 16-A 3200
Fitzsimmons, Shaw et al 2-F ..... abd
Fitzsimmons, Shaw et al 4-E ..... abd
Wells completed 6
Production 5600
Abandoned 3
RACCOON BEND—AUSTIN COUNTY
Beal, Humble Oil & Refining Co.-Valley Oil Corp. 3 400
Bracey, Humble Oil & Refining Co.-Valley Oil Corp. 4-A 250
Bracey, Humble Oil & Refining Co.-Valley Corp. 5-A 330
Grawunder, Humble Oil & Refining Co.-Valley Oil Corp. 4-C 500
Grawunder, Humble Oil & Refining Co.-Valley Oil Corp. 6-B 480
Grawunder, Humble Oil & Refining Co.-Valley Oil Corp. 7-B 250
Mueller, Humble Oil & Refining Co.-Valley Oil Corp. 7 420
Sherrill, Humble Oil & Refining Co.-Valley Oil Corp. 3 400
Thompson, Humble Oil & Refining Co.-Valley Oil Corp. 5 250
O. Willson, Humble Oil & Refining Co.-Valley Oil Corp. 3 80
Wells completed 10
Production 3360
REFUGIO—REFUGIO COUNTY
J. A. Lambert, Houston Gulf Gas Co. 9 gas
Tom Heard, Houston Gulf Gas Co. 3.. gas
Cummings, Houston Gulf Gas Co. 2 ... 30
Morgan—Shelly, Houston Gulf Gas Co. 2 100
Wilson Heard, Houston Oil Co. 9 .... gas
Claude Heard, Independent Oil & Gas Co. 1 312
J. F. B. Heard, Independent Oil & Gas Co. 1-A ..... gas
Reilly, Independent Oil & Gas Co. 5.. 650
Fox (Block 76), Morgan Oil Corp. 1 .. 700
Johnson, Morgan Oil Corp. 1 300
Strauch, Larco Petroleum Co. 1 ..... gas
Murphy, Refugio Oil Corp. 2 550
Babb, Pearson Properties 1 900
Holmes Heard, Saxet Oil Co. 3 ..... gas
Henry Heard, Union Production Co. (Mission) 1 300
Wells completed 15
Production 3842
Gas 6
SPINDLETOP—JEFFERSON COUNTY
McFaddin, Yount Lee Oil Co. 28 150
McFaddin, Yount Lee Oil Co. 31 ..... abd
McFaddin, Yount Lee Oil Co. 97 250
McFaddin, Yount Lee Oil Co. 119 .... abd
Gladys City, Yount Lee Oil Co. 85 700
Gladys City, Yount Lee Oil Co. 97 ... abd
McFaddin, Unity Oil Co. 98 10
Wells completed 7
Production 1110
Abandoned 3
WEST COLUMBIA—BRAZORIA COUNTY
Hogg, Gulf Production Co. 3-B ..... abd
Smith, Humble Oil & Refining Co. 3 .. abd
Arnold, The Texas Company 25 1100
Wells completed 3
Production 1100
Abandoned 2
MISCELLANEOUS TEXAS
AUSTIN COUNTY
Brenham—Hess, Lyne Oil Co. 14 7
Brenham—Pomacal, Pomacal et al 1 .. abd
Brenham—Konlecesky, L. D. Steele 1. abd
Ward, O'Hara et al 1 ..... abd
San Felipe—Jackson, Empire Gas & Fuel Co. 1 ..... abd
BRAZORIA COUNTY
Kropp, Heine, Brooks & Patterson 2 ... abd
BURLESON COUNTY
Kines, Advance Oil Co. 1 ..... abd
Hill, Burleson Oil Co. 1 ..... abd
CHAMBERS COUNTY
Lost Lake—Mayes, Pure Oil Co. 5.....2000
Lost Lake—Mayes, Pure Oil Co. 7 1200
Lost Lake—Lost Lake, Pure Oil Co. 3 abd
COLORADO COUNTY
Nelson, Coyle & Concord 1 ..... abd
Golf Crest, Golf Crest Oil Co. 1 ..... abd
Stewart, Torsen et al 1 ..... abd
JEFFERSON COUNTY
Fannette—Burrell, Gulf Production Co. 4 3000
LIBERTY COUNTY
Sheeks—Vajdak, Cranfill & Reynolds 1-A ..... gas
Sheeks—Davis, Cranfill & Reynolds 1. 400
MONTGOMERY COUNTY
Damphier, Pure Oil Co. 1 ..... abd
ORANGE COUNTY
Port Neches—Polk, The Texas Company 1 2200
POLK COUNTY
Rogers, Humble Oil & Refining Co. 1. abd
WALLER COUNTY
Young, Talbert & Markle 1 ..... abd
WASHINGTON COUNTY
Moore, Biltmore Oil Co. 1 ..... abd
Harmel, A. W. Kellett 1 ..... abd
Schwartz, Melat et al 1 ..... abd
Kames, Penn-Tex Oil Co. 1 ..... abd
WHARTON COUNTY
Brown, Hearte et al 1 ..... abd
Wells completed 26
Production 9807
Abandoned 19
Gas 1
SOUTH LOUISIANA
BAYOU BOUILLON—ST. MARTIN PARISH
Bouillon fee, Rycade Oil Corp. 7 ..... abd
EDGERLY—CALCASIEU PARISH
Paraffine, Hercules Oil Co. 3 1800
HACKBERRY—CAMERON PARISH
Lemke, Calcasieu Oil Co. 5 2000
Valery, Calcasieu Parish 8 ..... abd
Carter & Sweeney, Yount Lee Oil Co. 2 abd
Wells completed 3
Production 2000
Abandoned 2
JENNINGS—ACADIA PARISH
Syndicate fee, Jennings Petroleum Co. 3 40
Houssierre—Laurielle, Yount Lee Oil Co. 7 700
Wells completed 2
Production 740
LOCKPORT—CALCASIEU PARISH
Bayou D'Inde, Vacuum Oil Co. and Gulf Refining Co. 3 ..... gas
SORRENTO—ASCENSION PARISH
United Land Co., Gulf Refining Co. 16 abd
STARKS—CALCASIEU PARISH
Lutcher—Moore, Gulf Refining Co. 17. 100
SULPHUR—CALCASIEU PARISH
Fee, Union Sulphur Co. 753 1400
Fee, Union Sulphur Co. 755 ..... abd
SWEET LAKE—CAMERON PARISH
Yount Lee, Pure Oil Co. 7 ..... abd
VINTON—CALCASIEU PARISH
Vincent, Vinton Petroleum Co. 19 5
MISCELLANEOUS LOUISIANA
CAMERON PARISH
Black Bayou—Watkins, Shell Petroleum Corp. 6 ..... abd
IBERIA PARISH
Loreauville—State, Gulf Refining Co. 11-Z ..... abd
IBERVILLE PARISH
Bayou Blue—Schwing, Standard Oil Co. 5 ..... abd
JEFFERSON DAVIS PARISH
DeVilbiss, Vacuum Oil Co. 2 ..... abd
ST. MARTIN PARISH
Fournett, Bayou Teche Oil Co. 1 ..... abd
Hager—Martin, Ohio Oil Co. 5 ..... abd
ST. MARY PARISH
Berwick—Clark, La. Land & Exploration Co. 1 ..... abd
TANGIPHOHOA PARISH
Kent, Completion Oil Co. 1-A ..... abd
Hilton, Joan Oil Co. 1 ..... abd
Wells completed 9
Production 0
Abandoned 9

KENTUCKY

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Warren	0	0	0	0	0	3	3
Allen	0	0	0	0	0	6	6
Ohio	51	2,518	13	6	1	61	62
Daviess	16	461	3	0	2	34	36
Hancock	2	2	0	1	0	2	2
McLean	1	5	0	0	0	3	3
Henderson	0	0	0	0	0	9	9
Webster	0	0	0	0	0	2	2
Muhlenberg	0	0	0	0	0	11	11
Hopkins	1	0	0	1	0	8	8
Butler	0	0	0	0	1	1	2
Breckenridge	0	0	0	0	1	1	2
Christian	0	0	0	0	2	3	5
Union	0	0	0	0	0	1	1
Cumberland	0	0	0	0	0	2	2
Logan	0	0	0	0	0	1	1
Todd	0	0	0	0	0	1	1
Caldwell	0	0	0	0	0	1	1
Wayne	6	13	2	0	0	4	4
Powell	0	0	0	0	0	1	1
Estill	1	1	0	0	0	4	4
Morgan	0	0	0	0	0	1	1
Wolfe	1	3	0	0	0	0	0
Lee-Owsley	0	0	0	0	0	2	2
Lawrence-Johnson	1	5	0	0	0	0	0
Johnson-Magoffin	0	0	0	0	0	4	4
Floyd	0	0	0	0	0	1	1
Clay	0	0	0	0	0	2	2
Jackson	1	0	0	1	0	1	1
Knox	0	0	0	0	0	2	2
Total Dec.	81	3,008	18	9	7	172	179
Total Nov.	143	5,271	35	15	13	166	179
Difference	62	2,263	17	6	6	6	0

COMPLETED WELLS
OHIO COUNTY
Hartford—E. S. Dunn, Hupp & Duff 3. dry
Clyde Bartlett, Hupp & Duff 20 .... dry
Stewart, Hupp & Duff 2 100
Stewart, Hupp & Duff 3 200
Stewart, Hupp & Duff 1 100
Wiggington, C. M. Root & Co. 2 500
Wiggington, C. M. Root & Co. 3 150
Wiggington, C. M. Root & Co. 4 150
Wiggington, C. M. Root & Co. 5 150
Reat Haynes, Mo.-Kans. P. L. 2 .... gas
A. Whitehouse, Mo.-Kans. P. L. 1 .. gas
T. P. Royal 60-ac., T. P. Royal & Co. 10 25
T. P. Royal 60-ac., T. P. Royal & Co. 11 50
Cobb Hrs., Dr. Sirman 2 ..... gas
C. W. Morgan, Rex-Pyramid Oil 10 . 150
Sallie Hoover, Rex-Pyramid Oil 16 .. 60
Sallie Hoover, Rex-Pyramid Oil 17 .. 80
C. W. Wade, Cumberland Pet. 9 100
Hill Rhodes, Cumberland Pe.. 1 40
G. W. Kirk, Cumberland Pet. 2 .... dry
W. J. Dodson, Unknown 1 ..... dry
Otis Greer, Jas. C. Ellis & Co. 9 .... gas
Perry Talley, Jas. C. Elliott & Co. 1.. dry
S. M. Greer, Jas. C. Ellis & Co. 1 .. gas
J. H. Evans, Jas. C. Ellis & Co. 1 .. 35
O. Greer 76-ac., Jas. C. Ellis & Co. 1 dry
M. S. aBrtlett, Ellis & Thomas 1 150
T. P. Royal 25-ac., National Deposit Bank 3 30
Wm. Wade, C. Claypool & Co. 4 .... dry
Willie Mills, White & Vickers 3 20
M. Medcalf, Chester Oil 8 30
Eula Henning, Ohio Oil 4 18
W. B. Kelley 105-ac., Ohio Oil 12 .... dry
Chas. Roach, E. G. Purtle & Co. 6 .... dry
Hill Rhodes 72-ac., Three C's O. & G. 1 40
Obie Helm, Leeper Oil Co. 4 70
C. W. Duff, DeHart & Williams 3... 30
P. R. Kelley, Ky. P. L. Co. 1 ..... dry
A. T. Brunnel, Dr. Sirman 1 ..... dry
Six Bellamy, Jenkins & Co. 1 ..... dry
Mary L. Bosley, Mo.-Kans. P. L. 1. gas
T. P. Royal 25-ac., National Deposit Bank 4 30
Willie Mills, White & Vickers 4 35
H. C. Greer, S. H. Russell & Co. 11 .. 35
W. Midkiff, S. H. Russell & Co. 4 .. 50
Guy Muffett, Fred Weir & Co. 2 10
W. L. Howard, J. E. Hare 4 10
Arnold Newton, Armistead Oil 3 10
Nation Bros., G. H. Rice, trustee 1 .. 25
A. P. Kelley, S. R. Nigh & Co. 13 35
Nannie Hagan, D. J. White & Co. 1.. dry
Wells completed 51
Production 2518
Dry 13
Gas 6
DAVIESS COUNTY
Owensboro—J. M. Clark, Pet. Explto. 2 50
M. Clark, Pet. Explto 1 25
M. W. Rhodes, Pet. Explto. 1 ..... dry
J. W. Fireline, Robbins & Simson 6 15
I. J. Clark, Evans & Garrison 3 25
Davis heirs, Evans & Garrison 7 20
Davis heirs, Evans & Garrison 8 100
M. D. Yeiser, Duncan, Raydure & Young 3 30
Goldie Ambrose, W. C. Clay, agent 2. 100
Ethel Chapman, Eastern Gulf Oil 1.. 15
Jas. Hayden, Imperial O. & G. Products 7 ..... dry
Floyd Kirk, Creek Drlg. 2 5
Geo. Beard, Cumberland Pet. 1 35
Trodgen, Trogmite Oil 7 35
Ward Creek Oil 1 ..... dry
First Nat. Bank, Penn-Indiana Oil 11 6
Wells completed 16
Production 461
Dry 3
HANCOCK COUNTY
Pellville—B. Parrott, H. H. Vickers & Co. 3 2
Chas. Vogles, Mo.-Kans. P. L. 1 .... gas
Wells completed 2
Production 2
Gas 1
McLEAN COUNTY
Calhoun—G. B. McManama, Ohio Oil 2. 5
WAYNE COUNTY
Dist. 3—Clint Bell, Smith-Carmon Co. 2 dry
Silas J. Burnett, Bain & Houge 3.... 5
Searns C. & L., Pigeon Rock Oil 13.. 5
Dist. 13—Nancy Jones & Co., Wm. O. Southern, Jr., 11 2
O. D. Catron, Harmon & Frank 1.... 1
Coyle heirs, M. D. Shearer 7..... dry
Wells completed 6
Production 13
Dry 2
ESTILL COUNTY
Dist. 7—John and Patsy Marcum, Gate City Oil 9 1
HOPKINS COUNTY
Madisonville—Lester, Mo.-Kans. P. L. 3 gas
WOLFE COUNTY
Dist. 20—J. P. Bush No. 2, Amp Burnett 2 3
LAWRENCE-JOHNSON COUNTIES
Dist. 32—Jesse Lyons, Swiss Oil Corp. 34 5
JACKSON COUNTY
McKee—Wolfork Land Co., Pet. Explto. 2 ..... gas

ROCKY MOUNTAIN AREA

MONTANA
Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rgs.	Drg.	Ttl.
Cat Creek	0	0	0	0	0	1	1
Kevin Sunburst	15	101	10	0	11	11	22
Pondera	3	555	0	0	2	2	4
Miscellaneous	13	34	4	7	7	72	79
Total Dec...	31	690	14	7	20	86	106
Total Nov...	28	344	11	6	21	96	117
Difference	3	346	3	1	1	10	11

WELLS COMPLETED
3-34-2 Bradley, A. H. Campbell 1 ... 30
6-33-1 Lunde, Chicago Con. Oil Co. 1 dry
20-35-1 Jarrett, "56" Pet. Corp. 9 ... dry
18-34-1 Hannah, Hannah Porter 6 .... dry
21-35-2 McManus, L. W. Hill 10 .... dry
21-35-2 McManus, L. W. Hill 11 .... dry
17-34-1 Murrils, J. W. Johnson 1 ... dry
32-35-1 Putnam, Minnemont O.1 Co. 2 dry
27-35-1 Levnick, Neptah-Vander 1 ... 20
25-35-3 Stewart, Oh Boy Oil Co. 2 ... dry
3-35-2 Baker, Ohio Oil Co. 18 21
5-34-2 Moore, Queen City Oil Co. 28 . 10
7-34-1 Harte, Radigan-Hungerford 13 20
12-34-2 Adams, J. W. Murphy Co. 2. dry
18-35-1 Kalispel, Larsen & White 1-A dry
9-27-4 Anderson, Jewell Oil Co. 1 ... 20
17-27-4 Jones, Midwest Ref. Co. 3 ... 285
32-26-1 Freeborn, Harris Hammond 2. 30
17-27-4 Jones, Teton Corp. 1 250
5-25-1 Skoog, Prod. Ind. Oil Co. 3 . 4
30-26-2 Pederson, Black Gold Pet. 1. gas
9-23-1 Rondas, Michner 1 ..... dry
15-15-35 SE, Big Horn O. & G. 9 ..... gas
24- 4-63 Carter & Co. ..... gas
21-10-58 Gas Development Co. 49 ..... gas
17-10-58 Gas Development Co. 50 ..... gas
31- 7-60 Hanson & Nordstrom ..... gas
19- 7-60 Montana Pet. Co. 6 ..... gas
5- 2-22 H. F. Stewart 1 ..... dry
17- 3-19 Carter Oil Co. 1 ..... dry
16-25-5 L. W. O'Neil ..... dry
Completions 31
Production 690
Dry 14
Gas 7

NEW MEXICO
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Chaves	0	0	0	0	0	4	4
De Baca	0	0	0	0	0	2	2
Eddy	1	0	1	0	3	10	13
Lea	3	0	2	1	13	31	44
McKinley	3	0	3	0	2	7	9
Rio Arriba	0	0	0	0	1	4	5
San Juan	0	0	0	0	4	11	15
Torrance	1	0	1	0	1	2	3
Miscellaneous	0	0	0	0	4	11	15
Total Dec.	8	0	7	1	28	82	110
Total Nov.	10	776	5	1	28	77	105
Difference	2	776	2	0	0	5	5

WELLS COMPLETED
33-19-30 Vandergriff, R. D. Compton et al 1 ..... dry
26-25-36 Lindley, Magnolia Pet. Co. 1 abd
23-24-36 Cushing, Cranfill & Reynolds 1 gas
22-19-38 Terry, Shell Pet. Corp. 1..... dry
16-17-11 Branson, Kerns & Toler 1.... dry
30-14-9w Union United Oil Co. 1 ..... abd
13-18-10 Phoenix Oil Co. 1..... dry
13-7n-7e Katchin, Sinco Oil Co. 1..... abd
Wells completed 8
Gas 1
Gas production 41,000,000
Dry and abandoned 7

UTAH
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Total Dec.	2	0	2	0	2	29	31
Total Nov.	0	0	0	0	3	26	29
Difference	2	0	2	0	1	3	2

WELLS COMPLETED
6-27-21 Shafer, Utah Southern Oil 1.. abd
13-23-20 King, Utah Southern Oil 1.... abd
Wells completed 2
Dry and abandoned 2

COLORADO
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Boulder	0	0	0	0	0	5	5
Fremont	3	10	2	0	1	16	17
Jackson	0	0	0	0	0	5	5
Larimer	0	0	0	0	3	7	10
Las Animas	1	0	1	0	2	4	6
Mesa	1	0	1	0	0	2	2
Moffat	0	0	0	0	12	4	16
Montezuma	1	0	1	0	0	0	0
Pueblo	1	0	1	0	1	2	3
Rio Blanco	0	0	0	0	0	2	2
Routt	1	122	0	0	2	0	2
Yuma	0	0	0	0	0	2	2
Miscellaneous	0	0	0	0	1	28	29
Total Dec.	8	132	6	0	22	77	99
Total Nov.	6	0	5	1	19	75	94
Difference	2	132	1	1	3	2	5

WELLS COMPLETED
5-6n-86 Carstarphen, Texas Prod. Co. 3 122
3-22-63 Shaw, Vineland Oil Co. 1.... dry
14-36-14 Haller et al 1 ..... dry

23-1s-1w D. & R. G., Parrish & Langston 1 ..... dry
4-29-60 Keith, Helium Co. 1 ..... dry
5-19-70 Catlin, Clem Lovisone 1 ..... dry
2-19-70 Zontine, Hammond & Beltramo 1 10
3-19-70 DeWeese, Dickason & Brewer 1 dry

Wells completed 8
Production 132
Dry and abandoned 6

WYOMING
Summary of Field Operations

Dist. or County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Sayt Creek..	0	0	0	0	2	4	6
Big Horn ..	0	0	0	0	0	7	7
Carbon	1	0	1	0	0	15	15
Fremont	0	0	0	0	0	10	10
Hot Springs.	1	50	0	0	0	4	4
Lincoln	0	0	0	0	1	7	8
Natrona (exc. Salt Creek)	0	0	0	0	1	6	7
Park	2	563	0	0	5	25	30
Sweetwater..	0	0	0	0	2	11	13
Sublet	1	100	0	0	3	19	22
Weston	3	10	2	0	1	2	3
Uinta	0	0	0	0	3	13	16
Miscellaneous	0	0	0	0	5	8	13
Total Dec.	8	723	3	0	23	131	154
Total Nov.	19	5,480	7	2	24	134	158
Difference.	11	4,757	4	2	1	3	4

WELLS COMPLETED
11-46-64 Gerald Bock 1 10
34-46-64 Oregon-Wyoming Oil Co. 3 .. dry
31-46-63 Osage Trust Oil Co. ..... dry
3-26-113 Charles S. Hill 1 100
26-58-98 Rosenberg, Midwest Ref. 1 .. 263
29-51-100 Morris, Lenco Pet. Co. 1 300
14-44-98 Empire State Oil Co. 1-A.... 50
2-17-98 Indian Pet. Co. 1 ..... dry

Wells completed 8
Production 723
Dry and abandoned 3

EASTERN FIELDS

Summary of Completed Work

Field—	Comp.	Prod.	Dry	Gas
Allegany	46	89	0	0
Bradford	171	478	0	0
Venango-Clarion	21	21	2	3
Butler-Armstrong ...	8	4	1	3
S. W. Pennsylvania ..	13	28	3	3
West Virginia	67	187	8	32
Southeast Ohio	75	1,293	16	49
Total December ...	401	2,100	30	90
Total November ...	588	3,592	39	64
Difference	187	1,492	9	26

Summary of Work under Way

Field—	Rigs	Drlg.	Ttl.
Allegany	8	31	39
Bradford	54	119	173
Venango-Clarion	2	20	22
Butler-Armstrong	3	15	18
Southwest Pennsylvania ..	2	31	33
West Virginia	39	104	143
Southeast Ohio	30	101	131
Total December	138	421	559
Total November	136	508	644
Difference	2	87	85

WELLS COMPLETED
ALLEGANY FIELD
Fee, N. V. V. Franchot, mgr. trus. ... 3
Fee, Gar Oil Co. 1
Lippert, C. M., Lippert et al 2
Fee, Ryder & Richmond Oil Corp. 2
Fee, Ryder & Richmond Oil Corp. 2
Fee, Ryder & Richmond Oil Corp. 2
Fee, Ryder & Richmond Oil Corp. 2
Fee, Joseph Sutter 1
Fee, N. V. V. Franchot, mgr. trus. 4
Harbel & Meridan, Jacob Meridan 1
Kinley Oil Co., W. E. and P. W. Burdick 2
Fee, Herbert Spring 1
Forest Oil Corp. 3
Tract 27, South Penn Oil 152 1
Tract 25, South Penn Oil 30 1
Plan A, Tract 3, South Penn Oil A041.. 1
Plan A, Tract 3, South Penn Oil A057.. 1
Tract 23, South Penn Oil 181 1
Plan A, Tract 3, South Penn Oil A049.. 1
Plan A, Tract 3, South Penn Oil 81 ... 1
Plan A, Tract 3, South Penn Oil 76 ... 1
Tract 1, South Penn Oil 81 1
Plan A, Tract 3, South Penn Oil A044.. 1
Plan A, Tract 3, South Penn Oil A037.. 1
Plan A, Tract 3, South Penn Oil A046.. 1
Burdick, South Penn Oil 77 1
Hamlin, South Penn Oil 130 1
Hooker, South Penn Oil 32 1
Jones, South Penn Oil 274 1
Lee, Hallock and Weston, S. P. O. 115 1
Fee, B. C. Tullar 2
Fee, A. H. Ashworth 1
Fee, J. A. and M. Hardman 2
South Penn Oil, Reeland et al 5
Fee, L. W. Shaner et al 5
Fee, J. B. Gray 1
Fee, Bradley Producing Co. 2
Fee, Producers Gas Co. 2
Fee, Producers Gas Co. 4
Fee, Producers Gas Co. 4
Fee, Gilligan & Dermitt 5
Fee, Gilligan & Dermitt 5
Fee, G. H. Bradley et al 2
Fee, G. H. Bradley et al 2
Fee, O. A. Eastman 4
Fee, A. C. A. Oil Corp. 3

Wells completed 46
Production 89

BRADFORD FIELD
Fee, Dell J. Moody 4
Russell, fee, C. E. Potter 5
Keating, fee, First Natl. Bank Olean 5
Weston, G. C., Rice et al 1
Fee, Mix Creek Oil Co. 1
Hoffman, Bell and Loop 1
Bell, L. Zwirnbaum 1
Fee, Curtis & Dunlavey 1
Fee, Messer Oil Corp. 1
Rounds, N. V. V. Franchot, trus. 20
Rounds, N. V. V. Franchot, trus. 22
Rounds, J. W. Kaufman est. 12
Fee, G. W. Smith est. 14
Duke, V. Schopperle 1
Duke, V. Schopperle 1
Duke, Penn. Pet. Co. 3
Borden, A. Williams 2
D. C. & B., T. H. Kervin, Jr. 3
D. C. & B., T. H. Kervin, Jr. 3
Middaugh, A. L. and L. M. Lilly 5
Duke, R. Jeutter et al 1
Givan & Barry, M. E. Barry et al 5
Givan & Barry, M. E. Barry et al 5
Cotton, T. O. Glenn et al 1
Duke, M. L., Boyl et al 1
Bingham, H. E. Camp. est. 2
Biley, H. Anderson 1
Wardwell, South Penn Oil 1
Forest Oil Corp. 1
Forest Pet. Corp. 10
Hawkins Oil Corp. 5
Niagara Oil Corp. 20
Degolia, South Penn Oil 12 1
Curtis & Imus, South Penn Oil 52 1
Bing. 151-154, South Penn Oil 14 1
N. W. M. & Ex. Co., S. P. O. 61 1
Whipple, South Penn Oil 151 1
Kinzua Wells, South Penn Oil 198 1
Bing. 151-155, South Penn Oil 14 1
Taylor, South Penn Oil 46 1
Blair, South Penn Oil 66 1
Cross, South Penn Oil 21 1
Melvin, South Penn Oil 270 1
Melvin, South Penn Oil 272 1
Melvin, South Penn Oil 273 1
Degolia, South Penn Oil 12 1
Degolia, South Penn Oil 01 1
Degolia, South Penn Oil 019 1
Dent, South Penn Oil 130 1
Smith, South Penn Oil 204 1
Bing. 387, South Penn Oil 17 1
Bing. Satt., South Penn Oil 165 1
Bing. Satt., South Penn Oil 164 1
Culbertson, South Penn Oil 87 1
Bing. 212, South Penn Oil 49 1
Bing. 400 acres, South Penn Oil 98 1
Bing. Johnson, South Penn Oil 60 1
Bing. 533, South Penn Oil 115 1
Rew & Hodge, South Penn Oil 66 1
Bing. Satt., South Penn Oil 165 1
H. E. Smith, South Penn Oil 203 1
Bing. Satt., South Penn Oil 60 1
W. Weston, Jr., Bradford Prod. Co. ... 1
W. Weston, Jr., Bradford Prod. Co. ... 1
W. Weston, Jr., Bradford Prod. Co. ... 1
W. Weston, Jr., Bradford Prod. Co. ... 1
W. Weston, Jr., Bradford Prod. Co. ... 1
W. Weston, Jr., Bradford Prod. Co. ... 1
W. Weston, Jr., South Penn Oil 1
Hooker, fee, South Penn Oil 1
Ridell est., South Penn Oil 7
Redfield et al, South Penn Oil 2
Fee, Mary C. Reidy 3
Fee, R. O. Landers 3
Franchot, John Jackson 5
Fee, J. A. Walters est. 2
Kinley Oil Co., Pure Penn Oil Co. 6
Fee, Healey Pet. Corp. 2
Fee, Healey Pet. Corp. 2
Fee, Hawkins Oil Corp. 1
Fee, South Penn Oil 1
Wilkinson, Berwald & Williams 3
Bing. 468, Brink & Brink 5
Fee, T. H. Kennedy 6 6
Fee, Messer Oil Co. 10
Fee, Messer Oil Co. 15
Fee, Messer Oil Co. 40
Fee, Messer Oil Co. 10
E. M. Park est., Carter and Bradley .. 5
Fee, Burdick Bros. 8
Bing., Hazelwood Oil Co. 3
Bing. 150, South Penn Oil 2
Bing., Associated Producers Co. 1
Bing. 475, South Penn Oil 2
Fee, Mrs. S. F. Kaber et al 1
Bing. 150, South Penn Oil 2
Bing. 212, Associated Producers Co. ... 1
Fee, South Penn Oil Co. 2
N. W. M. & Ex., South Penn Oil 5
Bing. 494, South Penn Oil 1
Bing. 533, South Penn Oil 1
Bing. 570, South Penn Oil 3
Kinzue fee, South Penn Oil 10
Kinzue fee, South Penn Oil 2
Bing. 390, South Penn Oil 2
Bing. 395, South Penn Oil 2
Bing. 576, South Penn Oil 2
Gibson Oil Co., Bingham 3
Walker Bros., Bingham 5
H. B. Oil Co., Bingham 15
Fee, Fred Lawson 12
Fee, Lincoln & Brink 2
Willets est., Sloan & Zook Prod. Co. .. 5
Fee, Healey Pet. Corp. 6
Dieter, Dieter Bros. 5
Fee, Andrus & Wann 1
Bingham, Minard Run Oil Co. 5
Dent, Minard Run Oil Co. 8
Rew & Hodge, South Penn Oil 1
Borden & Taylor, South Penn Oil 1
Hazelwood Bing. 378, Hazelwood Oil .. 1
Hazelwood Tract 1, Hazelwood Oil Co. 1
Corwin, Cora M. Simons 1
Bing. 212, South Penn Oil 2
Lawton, Niagara Oil Corp. 2
Lawton, Niagara Oil Corp. 2
Lawton, Niagara Oil Corp. 2
Lawton, Niagara Oil Corp. 2
Lawton, Niagara Oil Corp. 2
Lawton, Niagara Oil Corp. 2
Lawton, Niagara Oil Corp. 2
Lawton, Niagara Oil Corp. 2
Jones, South Penn Oil 2
Daniels, Bradford Producing Co. 3
Barry, T. H. Kervin, Jr. 1
Gilpin, T. P. Thompson, Jr. 1
Melvin, South Penn Oil 3
Whipple, South Penn Oil 1

Wells completed 171
Production 478
Pressure and water 33
Dry 0

VENANGO-CLARION
Tract 74, S. Y. Ramage 95 1
McKee, C. L. Irwin 8 1
Hoffman, C. L., Irwin et al 1 1
Stiritz, H. H. Lebrum 8 1
Rumsey & Co., Rumsey & Lamberton 79 1
Hebscel, C. F. & C., Oil & Gas Co. 6 .. 1
Hebscel, C. F. & C. Oil & Gas Co. 7 .. 1
Hebscel, C. F. & C. Oil & Gas Co. 9 .. 1
Melford, South Penn Oil 34 1
Fowler, E. A. Burch et al 21 1
Lewis, S. R. Lewis et al 2 ..... gas
McLaughlin Co., J. M. McLaughlin 13.. 2
McLaughlin, Thomas McLaughlin 21 .. gas
Schwab, J. E., Keverline 16 ..... dry
Sporer, W. B. and F. E. Kapp 4 ..... gas
Gillingham, J. L. Gillingham 2 1
Mimm, Master and Hess 4 1
Criswell, J. H. Weaver ..... dry
Beals, F. & B. Oil & Gas Co. 1 2
P. C. L. & P. Co., Jenkins & Grimm 45 1
Clark, Robert and George Foggan 39 .. 4

Wells completed 21
Production 21
Dry 2
Gas 3

BUTLER-ARMSTRONG
Blair & Stewart, same No. 11 1
Graham, James F. Graham 9 ..... dry
Seigle, H. J. Crawford 10 1
McCullough, Willis M. Ruby 8 1
Barkley, M. B. Finnessy 30 1
Graff hrs., Graff Bros. 3 ..... gas
Cypher, Martin Cypher & Co. 1 ..... dry
Wilson hrs., Garvin Gettman et al 4 .. dry

Wells completed 8
Production 4
Dry 3
Gas 1

SOUTHWEST PENNSYLVANIA
WELLS COMPLETED
WASHINGTON COUNTY
McNinch, John Duncan 1 1
Cross heirs, Lloyd & Co. 3 ..... dry
Hutchison, Washington Oil Co. 6 2
ALLEGHENY COUNTY
Walley, Pine Oil Co. 1 ..... dry
Meis.er, Monier & Co. 2 4
Horn, C. F. Harbison 1 ..... dry
Hoffman, Walley & Co. 3 8
Slag, Marshall & Co. 1 1
Elenrath, Phillips G. & O. Co. 1 10
BEAVER COUNTY
Forsyth, Pgh. Co. 1 ..... gas
GREENE COUNTY
Cumberledge, Snyder & Noll 1 2
Smith heirs, Sutton & Co. 1 ..... gas
Carroll, Carnegie Gas Co. 1 ..... gas

Wells completed 13
Production 28
Dry 3
Gas 3

WEST VIRGINIA
WELLS COMPLETED
MONONGALIA COUNTY
Harker, H. M. C. O. & G. Co. 1 ..... dry
HANCOCK COUNTY
Lozo hrs., James Crozo 5 ..... gas
DODDRIDGE COUNTY
Bates, Trainor Bros. & Ash 2 5
Maxwell, Columbia Carbon Co. 55 ..... gas
RITCHIE COUNTY
Goff, Central O. & G. Co. 1 1
Haught, So. P. O. Co. 4 12
Foutty, Dry Ridge O. & G. Co. 8 5
Perrine, Roberts & Co. 1 10
Kennedy Oil Co., Griffin Prod. Co. 79.. gas
Martin-Right, P. Townsend 1 5
Bickerstaff, So. P. O. Co. 9 2
Cain, Rexroad & Richards 1 2
Wilson, So. P. O. Co. 21 1
GILMER COUNTY
Woofter, Black & Bennett 1 ..... gas
Rymer, Carnegie Gas Co. 3 ..... gas
CLAY COUNTY
Brown, V. G. & O. Co. 24 12
Brown, V. G. & O. Co. 4 5
BRAXTON COUNTY
Engle, United Gas Co. 2 ..... dry
WIRT COUNTY
Vernon-Donoho, W. C. Patterson 35 ... dry
WOOD COUNTY
Kirkhart, Law & Lester 1 ..... dry
Dawkins, Summit Oil Co. 1 ..... gas
Riley Jr., Bill & Co. 1 5
Heckert, Alleman & Co. 1 2
PLEASANTS COUNTY
Brummer, Neely & Co. 1 ..... gas
Sellers, White & Co. 1 2
Gale hrs., Gale & Samuels 17 2
Stanton, Dinsmoor & Co. 12 1
White, Baughner & Marple 17 1
ROANE COUNTY
Stockly, So. P. O. Co. 103 25
Stockly, So. P. O. Co. 104 10
Stockly, So. P. O. Co. 105 ..... gas
King, V. G. & O. Co. 5 ..... dry
Bee, Parsons O. & G. Co. 1 4
Ludwick, Tom Harris Oil Co. 1 ..... dry
Riddle, Reedy Oil & Gas Co. 2 3
Tallman, Heck Oil Co. 6 20
CALHOUN COUNTY
Roberts & Co., Federal O. & G. Co. 48 1
Slider, Smith & Bickel 1 ..... gas
Knight, L. P. Bickel 1 ..... gas
Stump, Daily & Co. 1 1
Stevens, Hope Gas Co. 1 ..... gas
Mahaney, Hamilton & Co. 1 ..... gas
Duckey, F. F. McIntosh 1 ..... gas
Hardman, F. F. McIntosh 1 ..... gas
Garrett, So. P. O. Co. 1 50
JACKSON COUNTY
Ludwick, Thomas Harris 1 ..... dry
LINCOLN COUNTY
Estep, U. F. G. Co. 3906 ..... gas
Estep, U. F. G. Co. 3910 ..... gas
H. C. L. & M. Co., U. F. G. Co. 3975.. gas
Wiley-Thompson, U. F. G. Co. 3945.. gas
Ferrell, Bark Camp Gas Co. 2 ..... gas
KANAWHA COUNTY
Littlepage, U. F. G. Co. 3991 ..... dry
Sears, U. F. G. Co. 4020 ..... gas
Handlin, U. F. G. Co. 4022 ..... gas
Hayes, V. G. & O. Co. 15 6
Wiseman, Charleston-Dunbar Gas Co. 1 gas
BOONE COUNTY
Federal Coal Co., G. L. Cabot 33 ..... gas
Federal Coal Co., G. L. Cabot 34 ..... gas
Dickinson, G. L. Cabot 3 ..... gas
Huntington Dev. Co., G. L. Cabot 38... gas
Burgess, Coal Fork O. & G. Co. 1 ..... gas
CABELL COUNTY
Chapman, Harshbarger O. & G. Co. 1 gas
Reynolds, Larner Gas Co. 1 ..... gas
WAYNE COUNTY
Wilson, Wayne United Gas Co. 1 ..... gas
MINGO COUNTY
R. J. O. & G. Co., R. J. O. & G. Co. 9... gas
R. J. O. & G. Co., R. J. O. & G. Co. 10.. gas
Messer, Two Way O. & G. Co. 1 10

Wells completed 67
Production 187
Dry 8
Gas 32

SOUTHEAST OHIO
WELLS COMPLETED
MONROE COUNTY
Dels:, A. O. D. Co. 4..... 1
Oliver, Hill Top O. & G. Co. 2..... dry
Hagan, W. C. McBride, Inc. 1..... 1
Tom, Witter O. & G. Co. 1 ..... dry
Eichorn, Witter O. & G. Co. 2 ..... gas
Crum, Baker & Co. 1 ..... dry
Givens, Sylvian Prod. Co. 8 4
PERRY COUNTY
Critchet, Trinway O. & G. Co. 1..... dry
Hummel, Preston Oil Co. 2 ..... gas
Menan, O. F. G. Co. 1 ..... dry
Wigton, O. F. G. Co. 1 20
Winter, J. W. Leonard 1 2
Brown, McClay Bros. & Co. 2..... 140
Chas. Brown, J. W. R. Prod. Co. 1 180
Wetzel, Crowley, Carr & Co. 1 2
Frash, Crowley, Carr & Co. 1 100
Roseville C. Co., Bell Scholl & Co. 1 .. 60
Smith, Bell Scholl & Co. 1 25
Pottery Co., Cline & Co. 1 165
Cunningham, Foraker & Co. 1 30
Weaver, Baughman & Co. 1 ..... gas
Wilson, S. & W. O. & G. Co. 1 ..... dry
McClain, Buckeye Supply Co. 1 125
Rider & Co., Buckeye Supply Co. 1 75
HOCKING COUNTY
S. C'k. Co., Preston Oil Co. 1363 ..... gas
H. V. P. Co., Chartiers Oil Co. 214 40
Marlow Oil Co., Griffin Prod. Co. 9 20
Ruff, Berlin, Ryan & Co. 1 ..... dry
Cobb-Bradley, Squire & Co. 20 ..... dry
Sunday C'k. Co., Preston Oil Co. 3066 .. dry
Beery, Preston Oil Co. 2 5
Howser, Wm. Spangler 1 ..... gas
HOLMES COUNTY
Schlarf, Ohio F. G. Co. 3 10
Beall, Uhl & Co. 6 2
GUERNSEY COUNTY
Alloway, Ohio F. G. Co. 3 ..... gas
McFarlan, O. F. O. & G. Co. 1 ..... gas
Smetts, Smet.s Oil Co. 2 40
Shearer, Gordon Oil Co. 1 35
MUSKINGUM COUNTY
McKee, Pure Oil Co. 3 10
Romine, Wittmer O. & G. 1 40
Porter, Mid East Oil Co. 2 ..... dry
COSHOCTON COUNTY
McNaught, Pure Oil Co. 1 ..... gas
Ashcraft, Hope C. & R. Co. 1 ..... gas
LICKING COUNTY
Cochran, Emerald Pet. Co. 2 20
Moran, Preston Oil Co. 2 10
Fleming, Hope C. & R. Co. 2 10
Claypool, E. H. Everett Co. 3 30
Cotterman, Patten & Co. 11 5
NOBLE COUNTY
Newton hrs., McKee Bros. 1 3
Blake hrs., Permain O. & G. Co. 1 .... gas
Hesson, Richardson & Co. 1 ..... dry
Heisler, Robinson & Co. 1 ..... dry
Mason, Decker & Co. 1 ..... dry
Schwallie, Dimerling & Co. 1 ..... dry
Brown, Green & Co. 2 ..... dry
ATHENS COUNTY
Jacoby, Ross & Frebolt Co. 1 2
Doss, Hope C. & R. Co. 1 5
MORGAN COUNTY
Allard, Pierce & Co. 1 ..... gas
MEIGS COUNTY
Holter, B. M. Tyree & Co. 1 25
Spencer, Hazlett & Co. 4 7
Hill, Palmer & Co. 1 ..... dry
Carnahan, Twenty-five Assn., Inc. 14.. 10
New Pgh. C. Co., Twenty-five Assn. 3 .. 3
WASHINGTON COUNTY
Kitchen, Gordon Oil Co. 4 ..... gas
Sanford-Watson, O. K. O. & G. Co. 33.. 1
Jellionson, East Mid. Prod. & R. Co. 11 25
Greenwood, Zwingle Bros. 3 10
Male, Bachelor & Rathbone 1..... 2
Harris, Bachelor & Rathbone 5 1
Rinehaft & Co., Newhart & Co. 1 ..... gas
Meister-Blair, Meister & Blair 9 ..... dry
Bird, Meister Est. & Co. 2 1
HARRISON COUNTY
Maxwell, Frank Quinn 11 5
JEFFERSON COUNTY
Jefferson Co. Infirmary, Braden & Co. 7 20
STARK COUNTY
Oliver, Canton Oil Co. 1 ..... gas

Wells completed 75
Production 1,293
Dry 16
Gas 14

CENTRAL OHIO FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Ashland	7	0	4	3	7	12	19
Medina	3	7	1	0	0	7	7
Lorain	5	0	1	4	2	4	6
Wayne	6	0	1	5	2	7	9
Holmes	4	40	1	2	4	6	10
Cuyahoga ...	1	0	1	0	0	0	0
Ashtabula ...	0	0	0	0	1	3	4
Richland	2	0	0	2	5	5	5
Knox	2	0	0	2	5	9	14
Coshocton ...	3	82	0	1	1	4	5
Summitt	10	0	3	7	5	20	23
Licking	10	254	0	2	8	12	20
Muskingum ..	15	353	3	5	4	20	24
Athens	12	3	2	9	8	8	16
Meigs	10	23	1	6	1	7	8
Jackson	2	0	0	2	6	7	13
Vinton	4	35	1	0	4	2	6
Lawrence ...	1	0	0	1	0	1	1
Tuscarawas ..	2	140	0	0	1	4	5
Stark	2	0	0	2	2	3	5

Portage	1	0	1	0	0	0	0
Fairfield	0	0	0	0	1	2	3
Scioto	2	0	2	0	0	0	0
Guernsey	5	130	1	1	3	10	13
Belmont	3	0	1	2	0	5	5
Pike	3	0	1	2	0	0	0
Gallia	0	0	0	0	0	1	1
Harrison	0	0	0	0	0	1	1
Total Dec.	115	1,067	25	58	66	157	223
Total Nov.	145	1,491	36	67	60	198	258
Difference	30	424	11	9	6	41	35

WELLS COMPLETED
ASHLAND COUNTY

Greene—Marvis Jones, Ohio Fuel Gas 2-4,905 ..... gas
Orange—A. N. Evil, Ohio Fuel Gas 1-4,-862 ..... dry
P. J. Hess, Ohio Fuel Gas 1-4,904 ... gas
Lake—Mathias Kopp, Robinson & Co. 1 dry
B. B. Chesrown, Mohican Oil & Gas 8 dry
Mohican—Geo. W. Garst, The Kemrow Co. 4 ..... dry
Sullivan—Enola Roice, Ohio Fuel Gas 1-4,866 ..... gas

Wells completed 7
Dry 4
Gas 3

MEDINA COUNTY

Homer—Frank Rhader, The Kemrow Co. 1 ..... dry
Chatham—J. and A. Jalenskes, East Ohio Gas 12 5
Sanford-Watson, Oko Oil & Gas 33.. 2

Wells completed 3
Production 7
Dry 1

LORAIN COUNTY

Grafton—Andrew Bishop, Ohio Fuel Gas 1-4,884 ..... dry
Ridgeville—Mathias Myers, Dempsey & McGrath 1 ..... gas
Carlisle—Julia Clark, Ohio Fuel Gas 3,-4,871 ..... gas
Julia Clark, Ohio Fuel Gas 4-4,876 .. gas
W. M. Richards, J. S. Cushing 1 .... gas

Wells completed 5
Dry 1
Gas 4

WAYNE COUNTY

Congress—Wm. Gessner, Ohio Fuel Gas 1-4,886 ..... gas
Keeler-Anderson, Ohio Fuel Gas 1-4,-888 ..... gas
Lewis Howman, Harmon & George 1 gas
Chester—C. Fetzer, Harmon & George 1 gas
Riley Howey, Faulkner & Co. 2 ..... gas
Wayne—A. W. Boreman, Ohio Fuel Gas 1-1,370 ..... dry

Wells completed 6
Dry 1
Gas 5

HOLMES COUNTY

Hardy—Christian Schlarbe, East Ohio Gas 3 40
Paint—Levi Yoder, Ohio Fuel Gas 1-4,-890 ..... gas
Monroe—A. R. Mackey, Lydic Oil & Gas 6 ..... gas
Knox—P. M. Young, I. E. O'Hail 4 .... dry

Wells completed 4
Production 40
Dry 1
Gas 2

CUYAHOGA COUNTY

Breck—Theo. Kundtz, Hulse & Kundtz 1 ..... dry

RICHLAND COUNTY

Monroe—Sarah McFarland, Ohio Fuel Gas 1-4,883 ..... gas
Worthington—Alex Innes, Ohio Fuel Gas Co. 1-4,894 ..... gas

Wells completed 2
Gas 2

KNOX COUNTY

Brown—J. J. Hyatt, Ohio Fuel Gas 2-4,850 ..... gas
Jefferson—R. P. Hipp, I. E. O'Hail 3.. gas

Wells completed 2
Gas 2

COSHOCTON COUNTY

Clark—Bert Uhl, Bert Uhl 5 12
Franklin—Barnes Coal & Mining, Ohio Fuel Gas 1-4,902 ..... gas
Pike—J. Woolford, Spindler & Co. 5.... 70

Wells completed 3
Production 82
Gas 1

SUMMITT COUNTY

Franklin—Frank H. Mason, East Ohio Gas 2 ..... dry
Aaron O. Gaston, F. A. Brendall & Co. 1 ..... dry
Pille-Myers, Pille & Co. 1 ..... gas
J. Albright, Albright Oil 1 ..... gas
R. M. McCaughy, Stolz Oil & Gas Corp. 1 ..... dry
Greene—Frank Selzer, F. A. Brendall & Co. 1 ..... gas
C. Kerr, F. A. Brendall & Co. 1 .... gas
Ellen Dailey, Comet Oil & Gas 1 .... gas
Katherine Selzer, Eagon & Co. 1 .... gas
Copley—W. H. Martenas, Wiser Oil 1.. gas

Wells completed 10
Dry 3
Gas 7

LICKING COUNTY

Fallsburg—Ira T. Rine, Whitehill Oil & Gas 4 ..... gas
Thomas Moran, The Preston Oil 2... 6
Lecta Mizer, Arkansas Fuel Oil 5 .. 20
Ira M. Cochran, Emerald Pet. 2 10
Perry—Ira T. Rine, Whitehill Oil & Gas 3 ..... gas
J. C. Wright, Hope Const. & Refg. 4 6
Franklin—G. E. Cotterman, Bishop. Deetry & Co. 4 3
Hanover—Homer C. Priest, The Pure Oil 2 90
Mary Fleming, Hope Const & Refg. 2 49
Felix Claypool, Everette Gas 3 70

Wells completed 10
Production 254
Gas 2

MUSKINGUM COUNTY

Falls—Oleita Swan, Ohio Fuel Gas 1-4,-899 ..... gas
Highland—M. R. and E. Emler, Wehrle Gas 1 ..... dry
Hopewell—Moses Porter, Mid-East Oil 2 ..... gas
Jackson—Lloyd McKee, The Pure Oil 3 14
Wm. McNaught, The Pure Oil 1 .... gas
Clay—S. R. Wigton, Ohio Fuel Gas 1-4,889 23
Phoebe Cherry, Crawley & Co. 1 80
Ramsbottom Pottery, Wm. Kline & Co. 2 105
J. G. Baughman, Bell Scholl 1 25
Eliza O. Beem, Abe Snider & Co. 3.. 67
Perry—O. R. Baum, Ohio Fuel Gas 1-4,-841 ..... dry
Sarah Romine, Whitmer Properties, trus. 1 39
Union—J. H. Moore, The Atha Co. 2 .. gas
Brush Creek—A. B. Dozier, The Pure Oil 1 ..... gas
Newton—Geo. N. Wilson, Perry Sturm & Co. 1 ..... dry

Wells completed 15
Production 353
Dry 3
Gas 5

ATHENS COUNTY

Ames—Albert Linscott, Ohio Fuel Gas 4-4,858 ..... gas
G. O. Linscott, Ohio Fuel Gas 3-4,915 gas
E. H. Bennett, Ohio Fuel Gas 1-4,925 gas
Lodi—Fred S. Moore, Ohio Fuel Gas 3-4,875 ..... gas
R. E. Wilson, Fairchild Oil & Gas 2. gas
Athens—Geo. Jacoby, Gross & Freebault 1 3
Rome—Pearl A. Russell, Ohio Fuel Gas 1-4,903 ..... gas
L. R. Burrows, Coleville Oil & Gas 1 gas
Waterloo—R. L. Clutter, Ohio Fuel Gas 1-4,908 ..... dry
Cannon—L. D. Posten, Ohio Fuel Gas 1-4,913 ..... gas
Lee—Elmer M. Enlow, Ohio Fuel Gas 1-4,924 ..... dry
Carthage—F. I. Caldwell, Ohio Fuel Gas 1-4,931 ..... gas

Wells completed 12
Production 3
Dry 2
Gas 9

MEIGS COUNTY

Sutton—C. C. Hill, Root & Palmer 1 .. dry
Martin Ebersbach Co., Tyree & Co. 3 3
Wm. Carnahan, Tyree & Co. 14 10
Belle Spencer, Hazlett & Co. 4 10
Bedford—John Chaney, Ohio Fuel Gas 1-4,881 ..... gas
D. A. Dais, The Preston Oil 1-1,181.. gas
Scipo—F. C. Halliday, H. McTaggart & Co. 5 ..... gas
J. F. and Bessie Lee, Ohio Fuel Gas 1-4,940 ..... gas
Rutland—Florence Mutchler, T. Chase & Co. 1 ..... gas
Halliday, McTaggart & Co. 5 ..... gas

Wells completed 10
Production 23
Gas 6
Dry 1

JACKSON COUNTY

Lick—Leon Evans, Penn Oil & Gas 8.. gas
Chas. Swan, Penn Oil & Gas 3 ..... gas

Wells completed 2
Gas 2

VINTON COUNTY

Swan—Ellen McQuade, Ohio Fuel Gas 1-4,848 ..... dry
Knox—Dan Bass, Hope Const. & Refg. 1 5
Cameron Clark, Co-operative Oil 3 .. 20
J. W. Stanley, Bell & Co. 3 10

Wells completed 4
Production 35
Dry 1

LAWRENCE COUNTY

Perry—Hecla Iron & Mining, Inland Gas Corp. 6 ..... gas

TUSCARAWAS COUNTY

Washington—G. W. Smetts, Smetts Oil & Gas 2 80
T. B. and Rose Shearer, Gordon Oil 1 60

Wells completed 2
Production 140

STARK COUNTY

Lawrence—Adam Limbach, Penn Oil & Gas 1 ..... gas
Chas. Smith, F. A. Brendall & Co. 1 gas

Wells completed 2
Gas 2

PORTAGE COUNTY

Brumfield—Cleveland Worsted Mills, East Ohio Gas 1 ..... dry

SCIOTO COUNTY

Porter—J. Adams, Browning Bros. 1.. dry
Green—Albert Feurt & Co., Demick Bros. 1 ..... dry

Wells completed 2
Dry 2

GUERNSEY COUNTY

Wheeling—A. E. Robinson, Ohio Fuel Gas 1-4,842 25
J. O. Alloway, Alloway Oil & Gas 6 45
Wm. T. Virtue, Ralston Oil & Gas 2 60
J. C. Alloway, The Preston Oil 3-1,-371 ..... gas
J. W. McFadden, Capitol Drlg. 1 .... dry

Wells completed 5
Production 130
Dry 1
Gas 1

BELMONT COUNTY

Somerset—J. H. Stephens, Shay McMullen 1 ..... gas
Allen Price, Patterson & Peters 1 .. gas
Union—C. and W. Shepherd, Frank Stranges 4 ..... dry

Wells completed 3
Dry 1
Gas 2

PIKE COUNTY

Beaver—Herman Shy, A. & P. Oil & Gas 2 ..... gas
D. and D. Stewart, A. & P. Oil & Gas 1 ..... gas
Chas. Spencer, Beasley Oil & Gas 1.. dry

Wells completed 3
Dry 1
Gas 2

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Drg.	Ttl.
Adams	1	15	0	0	0	2	2
Gibson	0	0	0	0	1	4	5
Pike	3	183	0	0	0	8	8
Daviess	1	0	1	0	0	3	3
Clay	0	0	0	0	0	1	1
Vigo	2	50	0	0	0	2	2
Sullivan	0	0	0	0	0	1	1
Spencer	1	0	1	0	0	2	2
Warrick	0	0	0	0	0	2	2
Perry	0	0	0	0	0	4	4
Fountain	0	0	0	0	0	1	1
Greene	0	0	0	0	0	2	2
Crawford	0	0	0	0	0	1	1
LaGrange	0	0	0	0	0	1	1
Posey	0	0	0	0	1	1	2
Johnson	0	0	0	0	0	1	1
Putnam	0	0	0	0	0	1	1
Morgan	0	0	0	0	0	1	1
Madison	1	0	0	1	0	0	0
Marshall	0	0	0	0	0	1	1	2
Monroe	2	5	0	1	0	0	0
Jasper	0	0	0	0	0	2	2
Lake	0	0	0	0	1	0	1
Total Dec.	11	248	2	2	4	41	45
Total Nov.	34	260	15	8	5	41	46
Difference	23	12	13	6	1	0	1

WELLS COMPLETED
JAY COUNTY

Penn—L. Grissell, Amber Oil Producing 30, 33, 34 ..... abd
G. F. Gemmill, Pennville Oil & Gas 6, 7, 8, 11 ..... abd
Knox—L. Horn, Turkey Creek Oil 1, 2, 3, 4, 5 ..... abd

Abandoned 12

ADAMS COUNTY

Jefferson—Otto Baker, George S. Lacknett 4 15

GIBSON COUNTY

Washington—J. Jones, Big Four Oil & Gas 1 ..... abd
L. C. Frederick, Murphy Oil of Pa. 4 abd

Abandoned 2

PIKE COUNTY

Clay—Fred Lindy, Wm. Bell & Co. 1 .. 100
W. H. Lindy, F. B. Hillis, trus. 3 ... 80
Logan—Everette Loveless, Wiser Oil 1 3
Madison—E. P. Barker, Ohio Oil & Bement 5 ..... abd

Wells completed 3
Production 183
Abandoned 1

DAVIESS COUNTY

Veale—National City Bank, Reicher & Co. 2 ..... dry

VIGO COUNTY

Prairie Creek—Wm. Riggs, No. 2, Siosi Oil Corp. 17 30
Prevo-Frakes, Hamil & Dill 1 20

Wells completed 2
Production 50

SULLIVAN COUNTY

Turman—J. T. Carruthers, A. R. Hooten 1, 5 ..... abd

SPENCER COUNTY

Ohio—Leo Strassell, Randall & Sharp 3 dry

MADISON COUNTY

Pendleton—Taylor Brown, Pendleton Nat. Gas 1 ..... gas

MONROE COUNTY

Bloomington—Mary E. Shirley, Petroleum Explin. 1 ..... gas
Robert Howell, Petroleum Explin. 1.. 5

Wells completed 2
Production 5
Gas 1

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Clark	2	45	1	0	0	0	0
Crawford	7	85	4	0	1	8	9
Lawrence	4	135	1	0	0	5	5
Wabash	5	135	2	0	0	3	3
Saline	2	0	2	0	0	0	0
Clinton	0	0	0	0	0	2	2
Effingham	0	0	0	0	0	1	1
Randolph	0	0	0	0	0	2	2
Monroe	1	0	1	0	0	4	4
St. Clair	22	852	6	0	0	30	30
Washington	0	0	0	0	0	1	1
Total Dec.	43	1,252	17	0	1	56	57
Total Nov.	27	714	8	0	1	50	51
Difference	16	538	9	0	0	6	6

WELLS COMPLETED
CRAWFORD COUNTY

Honey Creek—Rachel Painter, Fred Burns & Son 1 ..... dry
Prairie—J. M. Williams, H. H. Weger 1 dry
Wm. Lamb, Ohio Oil Co. 3 ..... dry
Wm. Akeman, Knoll & Ellison 3 ... 50
A. J. Ikemire, Arkansas Fuel Oil 1.. 25
Martin—W. L. Hughes, Ohio Oil 24 ... dry
Robinson—Mary A. Cortelyou, Warner-Oil & Gas 8 10

Wells completed 7
Production 85
Dry 1

CLARK COUNTY

Martinsville—S. W. McClelland, Trenton Rock Oil & Gas 7 45
Westfield—M. L. Briscoe, Aispaugh & Co. 1 ..... dry

Wells completed 2
Production 45
Dry 1

LAWRENCE COUNTY

Lawrence—G. H. Gillespie, Ohio Oil 7. abd
Dennison—Chas. Gillespie, Chas. Blosser Co. 2 10
Tom Potts-Treat-Hayes Oil 2 25
J. E. Dennison, John Phipps 2 ..... dry
Bridgeport—C. B. O'Donnell, Snowden-McSweeney 46 100
F. E. McKelfresh, Ohio Oil 6, 14, 17. abd
Lawrence—F. C. Lawson, Ohio Oil 2 ... abd
Petty—W. E. Updike 35, Mahuska Oil 4, 5, 6 ..... abd
W. E. Updike 25, Ohio Oil 1 ..... abd
Oris Epple, Ohio Oil 8 ..... abd
Geo. E. Cessna, Ohio Oil 1, 3 ..... abd
J. W. Rodrick, Ohio Oil 11 ..... abd
Richard Judy, Ohio Oil 5 ..... abd
R. M. Hardacre No. 2, Ohio Oil 4, 7.. abd

Wells completed 4
Production 135
Dry 1
Abandoned 16

WABASH COUNTY

Wabash—Ed Wright, Ridge Farm Oil 3 10
C. E. Gillett, Ridge Farm Oil 3 ..... dry
J. M. Mullinax, Highland Oil & Gas 3 105
E. Alka heirs, J. S. Young, Jr., & Co. 6 20
Jesse Cisil, J. S. Young, Jr., & Co. 4. abd
Geo. D. Smith, J. D. Toomey & Co. 4 abd
Mary U. Litherland, J. D. Toomey & Co. 6 ..... a d
S. H. Price, Adams Corner Oil 1 ..... dry

Wells completed 5
Production 135
Dry 2
Abandoned 3

SALINE COUNTY

Eldorado—Herrick, Unknown 1 ..... dry
Mrs. Brown, Unknown 1 ..... dry

Wells completed 2
Dry 2

MONROE COUNTY

Renault Precinct—T. & G. Stockel, Abbott & Connelly 1 ..... dry

ST. CLAIR COUNTY

Sugar Loaf—Matilda Dyroff, Ohio Oil 22 65
Matilda Dyroff, Ohio Oil 23 100
Wm. Anderline, Ohio Oil 2 15
A. J. Shondy, Ohio Oil 1 60
Geo. Lindemann, Ohio Oil 1 25
Wm. Lindemann lot, Jim McPeak 3. 25
Shack lot, Thos. Whelan 1 55
Harry Young lot, Frank Thethoff & Co. 1 ..... dry
Louis Harris, Billman & Baumfelder 1 ..... dry
Fred Metler, H. & M. Operating 1 ... 100
Pauline Eckert, H. & M. Operating 2 150
Pauline Eckert, H. & M. Operating 3. 150
Fred Metler, House & Co. 1 ..... dry
C. H. LaCroix, Ellis & Thomas 2 ... 40
C. H. LaCroix, Ellis & Thomas 3 ... 15
Herbert Onstatt lot, Ellis & Thomas 1 3
Fee, Columbia Quarry Co. 1 ..... dry
Brillinger, Millhart & Co. 1 ..... dry
Pauline Eckert, Lon Sanders & Co. 3 35
A. Thielman, Gorman & Co. 2 10
Stoll, Mitchart & Co. 1 ..... dry
Arsenal Island—B. Pitzman, W. B. Simpson 2 4

Wells completed 22
Production 852
Dry 6

LIMA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Drg.	Ttl.
Wood	4	18	2	0	1	1	2
Hancock	2	32	0	0	0	9	9
Allen	2	65	0	0	0	2	2
Auglaize	1	0	1	0	1	2	3
Sandusky	3	30	1	1	0	2	2
Mercer	0	0	0	0	0	1	1
Seneca	3	0	2	1	2	8	10
Lucas	0	0	0	0	0	1	1
Shelby	0	0	0	0	0	1	1
Wyandot	0	0	0	0	1	0	1
Henry	1	0	1	0	0	0	0
Crawford	0	0	0	0	0	1	1
Logan	0	0	0	0	0	1	1
Huron	0	0	0	0	0	2	2
Total Dec.	16	145	7	2	5	31	36
Total Nov.	21	462	5	2	5	33	38
Difference	5	317	2	0	0	2	2

LIMA FIELD
WELLS COMPLETED
AUGLAIZE COUNTY

Noble—M. Weiter, A. J. Schulte 1 .... dry
ALLEN COUNTY
Bath—Philo Bassett, Neely & Nolan 8 25
Harrison Bassett, Neely & Nolan 1 .. abd
C. E. Baldwin, B. L. Carman & Co. 1 abd
Eugene Roalman, M. E. Roberts 2 40

Wells completed 2
Production 65
Abandoned 2

HANCOCK COUNTY

Liberty—A. Montgomery, Newton Oil 16 12
Eagle—J. H. Haley, B. Porter & Co. 31 20

Wells completed 2
Production 32

HENRY COUNTY

Richland—Elfa Pugh, Beaver Creek Oil 1 ..... dry

SANDUSKY COUNTY

Washington—Otto Fought, Lindy Oil 2 30
Ballville—Isobal Sibrel, J. H. Murphy & Sons 1 ..... gas
Scott—Henry Lehman, S. Feasel & Co. 1 ..... dry
C. Houtz, The Ohio Oil 4 ..... abd
Jackson—Miller & Miller, Hurry Up Oil 3 ..... abd

Wells completed	3
Production	30
Dry	1
Gas	1
Abandoned	2

SENECA COUNTY

Liberty—Frank Beck, H. Coyle 2 ..... gas
Reed—Jos. Fish, Mystic Oil 1 ..... dry
Pleasants—Retta Noble, Geo. Huffman 1 ..... dry

Wells completed	3
Dry	2
Gas	1

VAN WERT COUNTY

Black Creek—D. N. Morrison, C. V. Fisher 1, 2 ..... abd
W. B. Hill, C. V. Fisher 1 ..... abd
Liberty—G. L. Smiff, B. Y. J. Oil 1 ... abd

Abandoned	4

WOOD COUNTY

Montgomery—Argue, Anson G. Argue 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 ..... abd
Brant, J. H. Henderson 1 ..... abd
Freedom—Fred Restemeyer, Fred M. Smith 1 ..... abd
Bloom—Frank McClare, Clark A. Browning 35 14
Middleton—M. E. Bruce, Five Points Oil 8 4
Perry—Mose Flethner, Muncie Valley Oil & Gas 1 ..... dry
H. Brandeberry, Glass & Shellenberger 3 ..... dry

Wells completed	4
Production	18
Dry	2
Abandoned	14

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Muskegon	12	745	1	2	1	8	9
Isabella	19	1,745	4	0	26	35	61
Midland	1	0	1	0	14	7	21
Kent	0	0	0	0	2	2	4
Ottawa	0	0	0	0	0	2	2
Oceana	0	0	0	0	0	5	5
Mason	1	0	0	1	0	3	3
Newaygo	0	0	0	0	2	10	12
Manistee	2	0	0	2	0	1	1
Montcalm	0	0	0	0	0	2	2
Alpena	0	0	0	0	1	1	2
Tuscola	0	0	0	0	0	1	1
Cass	0	0	0	0	1	4	5
Clare	0	0	0	0	2	5	7
Lake	0	0	0	0	0	4	4
Saginaw	1	15	0	0	0	2	2
Emmett	0	0	0	0	0	1	1
Delta	0	0	0	0	0	1	1
Kalkaska	0	0	0	0	2	1	3
Branch	0	0	0	0	0	1	1
Montmorency	0	0	0	0	1	0	1
Barren	1	0	1	0	0	1	1
Ingham	0	0	0	0	0	1	1
Gratiot	0	0	0	0	4	5	9
Monroe	0	0	0	0	2	1	3
Iosco	0	0	0	0	1	0	1
Missaukee	0	0	0	0	1	0	1
Eaton	0	0	0	0	0	1	1
Jackson	0	0	0	0	1	0	1
Allegan	1	0	1	0	2	1	3
Kalamazoo	0	0	0	0	0	1	1
Presque Isle	0	0	0	0	1	0	1
Huron	0	0	0	0	1	0	1
Sanilac	0	0	0	0	1	0	1
Calhoun	0	0	0	0	1	0	1
Livingstone	0	0	0	0	1	0	1
Total Dec.	38	2,505	8	5	68	107	175
Total Nov.	32	4,093	13	0	56	138	194
Difference	6	1,588	5	5	12	31	19

WELLS COMPLETED
MUSKEGON COUNTY

Muskegon—S. Daniloff, Harold L. Fleeger & Co. 2 20
S. Daniloff, Rygo Oil 1 50
H. Smeltkop, Thompson Bros. & Co. A-3 50
John Jolsderma, Central Gas & Oil 3 90
City of Muskegon, Continental Motors Corp. 19 25
Charles I. Giles, L. E. Kennedy 5 .. 150
Hubbel-Bascon-Leahy, Van Buren Development 1 10
T. Kool, Bradley & Bradley 1 ..... gas
Laketon—A. H. Fenner, Witt & Wyant 7 150
Geo. Fenner, Witt & Nelson A-3 200
Geo. Fenner, Witt & Nelson A-4 .... gas
Blue Lake—Fruitvale, Buchannan & Frye 1 ..... dry

Wells completed	12
Production	745
Dry	1
Gas	2

ISABELLA COUNTY

Chippewa—State Isabella, The Pure Oil A-2 300
Reems, The Pure Oil A-3 200
Reems, The Pure Oil A-6 40
Reems, The Pure Oil B-2 20
Reems, The Pure Oil B-3 225
Reems, The Pure Oil B-4 50
J. Fox, The Pure Oil 6 125
J. Fox, The Pure Oil 7 200
W. D. Gibson, The Pure Oil 4 150
W. D. Gibson, The Pure Oil 7 75
W. D. Gibson, The Pure Oil 8 100
Fred D. Stoop, The Pure Oil 1 60
McClintic, Sias Oil Dev. 2 75
Weldman, Sias Oil Dev. 2 100
J. Brown, Brown Oil Dev. 1 25
Denver—Marthey, Mid-Michigan Oil 1.. dry
F. H. Dodds, West Virginia Oil 1 .. dry
Fred Campbell, Gordon Oil 1 ..... dry
Wise—Campbell, H. E. Pollock 1 ..... dry

Wells completed	19
Production	1745
Dry	4

MIDLAND COUNTY

Geneva—Wm. Henry, Geneva Oil 1 .... dry

MASON COUNTY

Grant—Diamond, Diamond-Thompson & Co. 1 ..... gas

MANISTEE COUNTY

Arcada—Chamberlain est., Fisher-Robbins Oil & Gas 1 ..... gas
Filer—Manistee Sand & Dock, Tackett & Drake 1 ..... gas

Wells completed	2
Gas	2

SAGINAW COUNTY

Saginaw—Spatz, Saginaw Prospecting 74 15

BARREN COUNTY

Watervliet—Blatchford, Blatchford Oil & Gas 1 ..... dry

ALLEGAN COUNTY

Allegan—Humphrey, Wiser Oil 1 ..... dry

KENTUCKY-TENNESSEE

(Continued from Page 78)

lis and others' No. 10 on the Otis Greer 76 acres, pumped an initial of 40 bbls., while No. 11 same farm, is a nice gas well. This firm's No. 4 on the Albert Payne 123 acres, was dry in the Jett, and may be drilled to the Barlow. Same firm's No. 2 on the J. H. Evans 74 acres, was a duster. Same parties' No. 2 on the S. M. Greer 134 acres, in the Whittaker Pool, is a good gas well.

Hupp and Duff's No. 2 on the R. C. Whittaker 90 acres, in the Whittaker Pool, produced 10 bbls. initial.

In the Bell's Run area northwest of the Ambrose-Weller Pool, the Leeper Oil Co.'s No. 5 on the Obie Helm 97 acres, is a 20-bbl. pumper. Chester Oil Co.'s No. 2 on the Zack King 65 acres, same pool, is a 20-bbl. pumper, while Frank Cox got a dry hole on the Murray Roberts 100 acres, same pool.

Other Completions

In the Owensboro Field of Daviess County, Hupp and Duff drilled a dry hole in No. 1 on the Southwestern Title & Trust Co.'s land.

In Knox County in the southeastern part of Kentucky, the United Carbon Co.'s test on the Wade Cassidy farm, on Lykin's Branch, 4 miles from Pikeville, is rated good for 2,000,000 feet of gas, and will help in furnishing gas for Pikeville, which is already using gas for light, heat and other purposes. Tulsa parties are reported to have struck a pocket of gas on the Gillam farm, in the same county, at a shallow depth of 400 feet.

In Eastern Kentucky, the Petroleum Exploration Co. is drilling No. 3 on the Wolfork Land Co., near McKee, in Jackson County, and in Clay County, is drilling No. 1 on the Lillie Peters farm, also No. 1 on the Gilbert Baker farm.

Smith, Randolph and others are starting a test on the Ed Bennett farm, in Daviess County. Johnson, Young and others' Nos. 3 and 4 on the B. Mackey farm, in the Utica Field of the same county, are reported making good showings.

In the Bell's Run area of Ohio County, the Three "C's" Oil & Gas Co. is drilling No. 1 on the Sam Holbrook's farm. Bigler & Becker are drilling No. 1 B. Greens farm; and Leeper Oil Co. is drilling No. 8 on the Allie Evans 60 acres, same area.

In the Whittaker Pool, Ohio County, James C. Ellis is drilling No. 12 on the Otis Greer 76 acres; Leeper Oil Co. is drilling No. 5 Tom Westerfield and Stoner and others are drilling No. 1 Simon Greer, all in the same pool.

D. J. White and others report a dry hole on the Nannie Hagan 75 acres, southeast of Oklahoma, in Ohio County.

Louisville Gas & Electric Co.'s No. 3 on the R. A. Miller 175 acres, near Waynesville, in Ohio County, is in the sand. S. R. Berry and others are drilling No. 1 on the Jake Smith farm in the Adaburg area. S. H. Russell and others are drilling No. 5 W. Midkiff 888 acres in the Deanfield Pool, and are starting No. 12 on the H. C. Greer farm.

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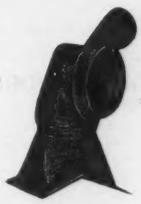

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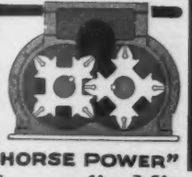

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Offices in Principal Cities

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE STATEMENT FOR NOVEMBER, 1929

Runs

Company—	Month (bbls.)	Dy. av. (bbls.)
Prairie P. L. Co.*	4,620,000	154,000
Gulf P. L. Co.	1,748,975	58,299
Texas P. L. Co.	756,387	25,213
Magnolia P. L. Co.	1,630,495	54,350
Empire P. L. Co.	1,625,698	54,190
Cosden P. L. Co.	798,835	26,628
Sinclair P. L. Co.*	2,820,000	94,000
Oklahoma P. L. Co.	3,092,396	103,080
Other lines*	5,520,000	184,000
Total November	22,612,786	753,760
Total October	24,266,273	782,783
Difference	1,653,487	29,023

Shipments

Prairie P. L. Co.†	6,192,204	206,407
Gulf P. L. Co.	1,892,038	63,068
Texas P. L. Co.	1,277,071	42,569
Magnolia Pet. Co.	2,247,152	74,905
Empire P. L. Co.	1,441,860	48,062
Cosden P. L. Co.	859,728	28,657
Sinclair P. L. Co.†	3,458,090	115,270
Oklahoma P. L. Co.	3,228,946	107,632
Other lines*	6,210,000	207,000
Total November	26,807,089	893,570
Total October	27,633,003	891,388
Difference	825,914	2,182

Stocks

Prairie Oil & Gas Co.*	38,133,700
Gulf Pipe Line and Gypsy Oil Co.	10,057,895
The Texas Company	6,982,264
Magnolia Petroleum Co.	8,000,416
Empire Oil & Refining Co.	5,751,909
Mid-Continent Petroleum Corp.	3,600,903
Sinclair Crude Oil Pur. Co.	20,114,000
Oklahoma Pipe Line Co.	3,718,953
Carter Oil Co.	9,421,386
Other companies	25,574,000
Total November	131,355,426
Total October	133,042,778
Difference	1,687,352

*Estimated. †Prairie and Sinclair shipments include Texas oil.

EASTERN PIPE LINE REPORT FOR MONTH OF NOVEMBER

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for October and November:

	Oct. '29	Nov. '29
Nat. Transit	404,122,07	426,302.38
S W Pa P L	94,485.54	82,952.71
Eureka P L	407,367.33	357,808.48
Buckeye P L (Macksburg)	368,647.98	334,853.69
Buckeye P L (Cleveland)	12,971.28	10,941.76
Buckeye P L (Lima, etc.)	111,929.62	94,141.89
Indiana P L	5,168.79	5,047.91
Cumberland P L	197,918.75	176,386.64
N Y Transit	32,746.64	31,674.21
Tide Water P L	.....	23,927.23
Pure Oil	290,221.77	296,627.99
Paragon Dev.	13,725.53	11,938.81
Stoll Oil Ref.	5,077.57	4,324.62
Bradford Trans.	414,513.56	387,990.83
Total	2,358,896.43	2,244,919.15
Daily average	76,093.43	74,830.64

Note—Paragon Refining Co. had other receipts of 193,678.88 bbls. Paragon Development had other receipts of 171.69 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for October and November:

	Oct. '29	Nov. '29
Nat Transit	601,799.57	610,866.22
S W Pa P L	332,869.58	335,147.92
Eureka P L	228,566.66	241,823.95
Buckeye P L (Macksburg)	196,645.46	200,936.77
Buckeye P L (Cleveland)	2,185.51	1,694.86
Buckeye P L (Lima, etc.)	1,676,756.01	1,293,017.06
Indiana P L	1,426,999.12	1,380,193.50
Cumberland P L	178,996.97	185,762.53
Southern P L	64,066.81	63,391.67
N Y Transit	292,940.39	265,488.60
Northern P L	168,667.97	173,230.28
Tide Water P L	280,269.87	324,984.88
Pure Oil	290,992.65	307,123.47
Paragon Ref.	175,750.89	192,159.25
Paragon Dev.	15,869.35	12,438.47
Bradford Trans.	.....	494,038.59
Total	5,932,376.81	6,082,298.02
Daily avg.	191,366.99	202,743.27

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of October and November:

	Oct. '29	Nov. '29
Nat Transit	719,388.96	725,641.66
S W Pa P L	498,919.11	526,381.77
Eureka P L	1,398,117.80	1,397,286.60
Buckeye P L (Macksburg)	400,582.44	413,588.69
Buckeye P L (Cleveland)	48,885.71	74,272.48
Buckeye P L (Lima, etc.)	2,783,005.84	3,181,309.11
Indiana P L	747,719.04	716,629.97
Cumberland P L	562,259.60	552,617.51
Southern P L	339,742.96	308,180.02
N Y Transit	142,410.37	141,455.63
Northern P L	328,077.84	340,327.62
Tide Water P L	909,010.27	1,012,222.37
Pure Oil	20,118.60	20,999.86
Paragon Ref.	24,163.27	25,402.17
Indian Ref.	182,679.26	.....
Paragon Dev.	4,903.36	4,736.09
Tuscarora	265,678.11	267,510.68
Brad Trans.	65,438.84	159,975.37
Total	9,441,101.38	9,868,537.60
Decrease	1,965.57	.....
Increase	.....	427,436.22

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern Pipe Lines at the close of October and November showing gross stocks of the above fields:

	Oct. '29	Nov. '29
Pennsylvania	3,372,038.77	3,270,041.21
Lima	563,216.33	567,411.45
Kentucky	711,464.81	607,043.92
Mid-Continent	4,494,311.77	4,283,691.69
Illinois	299,569.70	283,720.25
Total	9,441,101.38	9,011,908.52

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1926	1927	1928	1929
Jan.	55,630	56,209	52,904	51,749
Feb.	60,394	61,298	57,002	51,833
Mar.	61,644	63,247	57,485	54,252
April	63,019	60,927	56,812	58,444
May	60,580	60,284	62,067	59,902
June	61,121	62,757	58,230	58,833
July	63,206	58,674	57,144	66,087
Aug.	61,815	60,870	57,745	66,687
Sept.	64,639	60,285	53,487	67,315
Oct.	161,132	147,080	58,100	76,093
Nov.	67,774	57,275	53,865	74,831
Dec.	68,755	53,089	52,025	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1926	1927	1928	1929
Jan.	156,056	141,227	146,465	165,721
Feb.	159,488	138,534	167,368	159,387
Mar.	150,239	133,777	158,883	161,474
April	152,374	140,227	172,935	169,737
May	160,998	144,594	180,559	184,281
June	160,267	149,772	188,024	185,404
July	160,045	151,850	189,470	194,763
Aug.	151,929	188,653	192,853	184,946
Sept.	158,915	144,213	194,138	201,214
Oct.	161,132	147,036	176,000	191,367
Nov.	172,608	156,975	176,898	202,743
Dec.	136,428	144,504	173,572	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1927	1928	1929
Jan.	9,718,008	12,276,710	7,596,564
Feb.	10,119,162	12,180,419	8,738,835
Mar.	10,794,044	12,239,725	9,002,058
April	11,112,295	11,740,125	8,978,172
May	11,359,381	11,602,468	8,903,560
June	11,493,673	11,287,678	8,921,275
July	11,458,128	10,819,331	9,211,595
Aug.	11,989,115	10,236,743	9,440,643
Sept.	12,212,716	9,660,910	9,443,067
Oct.	12,047,661	9,229,709	9,441,101
Nov.	11,939,740	8,366,553	9,868,538
Dec.	12,340,297	7,539,555	.....

Franklin Pipe Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and average reported above:

	Runs	Shipments	Stocks
1928—			
Nov.	2,663.53	788.47	19,426.99
Dec.	3,053.60	3,167.53	19,426.99
1929—			
Jan.	2,099.90	.....	19,313.06
Feb.	2,469.47	6,873.20	17,009.23
March	3,330.82	3,595.01	16,745.04
April	4,864.07	4,243.59	17,365.52
May	2,688.59	2,455.54	17,598.57
July	2,947.62	3,329.35	4,503.48
Aug.	2,742.73	2,889.47	4,356.74
Sept.	2,925.71	2,897.34	4,385.11
Oct.	3,083.59	1,754.94	5,713.76

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Dec. 1	2,408,755.23
Runs from wells	541,181.52
Other receipts	250,705.12
Regular deliveries	427,064.63
Other deliveries	402,397.36

The amount of Illinois oil run by the Tidewater Pipe Co. in November was 28,927.23 bbls. Deliveries were none. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1928—		
Dec.	584,633.00	491,517.26
1929—		
Jan.	570,727.38	545,084.66
Feb.	517,330.17	503,387.70
March	728,319.67	586,049.60
April	515,374.27	654,297.96
May	608,981.60	673,812.83
June	568,454.70	818,845.97
July	611,106.79	828,159.44
Aug.	625,351.99	746,425.06
Sept.	582,457.66	669,947.72
Oct.	622,302.83	558,558.68
Nov.	565,108.75	427,064.63

Tidewater Pipe Co., Ltd., also delivered in November, 72,323.52 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
February	14,214	.....	38,750	17,250	11,607	81,821	.....	.....	.....	.....	3,750	85,571
March	19,903	968	31,258	18,581	7,355	78,065	.....	.....	.....	.....	.....	78,065
April	16,667	.....	32,333	13,233	2,234	64,467	.....	.....	.....	.....	7,333	65,200
May	16,226	2,416	31,326	10,806	2,129	62,903	.....	.....	.....	.....	.....	62,903
June	14,866	3,167	23,100	10,300	6,100	57,533	.....	.....	.....	.....	.....	57,533
July	15,387	4,806	34,290	19,388	2,452	76,323	.....	.....	.....	.....	4,161	80,484
August	20,389	3,129	35,226	18,903	5,548	83,194	.....	.....	.....	.....	12,161	95,355
September	19,433	.....	31,834	11,900	6,200	69,367	.....	.....	.....	.....	4,800	74,167
October	9,065	4,677	42,065	12,000	9,677	77,484	.....	.....	.....	.....	4,097	81,581
November	18,900	3,167	41,667	14,699	3,767	82,200	.....	.....	.....	.....	2,400	84,600

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
February	13,750	15,071	135,179	32,750	17,892	214,643	.....	34,357	821	143	35,321	249,964
March	18,548	26,064	145,516	39,162	28,162	257,452	.....	42,581	2,322	.....	44,903	302,355
April	19,733	18,367	137,333	50,267	22,567	248,167	6,867	25,066	10,367	1,500	43,800	291,967
May	29,806	19,258	138,000	49,936	22,322	259,322	6,677	26,322	3,900	1,323	37,323	296,645
June	31,433	8,667	134,600	42,967	18,300	235,967	8,600	22,533	11,800	2,033	45,066	281,033
July	40,097	15,129	111,677	43,420	31,516	241,839	4,774	12,097	9,516	161	26,548	268,387
August	33,387	14,355	162,644	30,936	20,355	261,677	4,226	12,742	.....	1,484	18,452	280,129
September	32,967	9,000	136,633	54,300	32,900	265,800	6,900	22,900	5,367	1,333	36,500	302,300
October	39,936	10,519	137,096	38,160	38,644	264,355	6,613	13,388	11,064	4,419	35,484	299,839
November	23,633	18,900	125,200	41,100	28,200	237,033	2,233	12,533	6,667	2,500	23,933	260,966

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS (REVISED)

(In Barrels of 42 gallons)

1928-29		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
November:	Month	19,907,526	22,078,680	20,791,798	2,977,800	2,476,080	1,801,914	2,388,870	3,348,000	75,770,668
	Daily average	663,584	735,956	693,059	99,260	82,536	60,064	79,629	111,600	2,505,639
December:	Month	21,574,703	22,425,722	22,180,102	2,988,400	2,521,571	1,846,841	2,289,040	3,581,000	79,407,379
	Daily average	695,958	723,410	715,487	96,400	81,341	59,576	73,840	115,516	2,561,528
January:	Month	23,385,939	22,575,874	23,412,226	2,861,641	2,453,526	1,807,887	2,076,070	3,439,000	82,012,163
	Daily average	754,385	728,254	755,233	92,311	79,146	58,318	66,970	110,936	2,645,554
February:	Month	22,300,707	20,464,164	20,816,209	2,557,968	2,154,194	1,569,930	1,966,656	3,113,000	74,941,228
	Daily average	796,454	730,863	743,484	91,356	76,936	56,068	70,202	111,184	2,676,472
March:	Month	24,324,729	20,838,262	24,358,592	2,951,076	2,303,724	1,756,153	2,195,823	3,586,000	82,314,359
	Daily average	784,669	672,202	785,761	95,196	74,314	56,650	70,838	115,677	2,655,302
April:	Month	23,295,060	20,235,290	23,493,097	3,112,740	2,188,680	1,702,479	2,085,030	3,524,000	79,636,376
	Daily average	776,502	674,513	783,102	103,758	72,956	56,750	69,501	117,467	2,654,546
May:	Month	24,053,351	21,345,453	24,489,101	3,665,099	2,200,158	1,713,261	2,252,522	3,879,000	83,617,945
	Daily average	775,915	688,563	789,965	118,229	71,618	55,267	72,662	125,129	2,697,353
June:	Month	24,624,627	20,561,112	24,698,029	3,636,150	2,112,270	1,699,581	2,180,752	3,887,000	83,399,521
	Daily average	820,821	685,371	823,267	121,205	70,337	56,653	72,692	129,567	2,779,984
July:	Month	26,796,627	22,371,925	26,969,389	3,867,157	2,137,047	1,716,488	2,360,836	4,439,200	90,659,730
	Daily average	864,407	721,675	869,997	124,747	68,937	55,370	76,156	143,200	2,924,489
August:	Month	27,233,353	22,429,492	27,490,489	3,816,555	2,086,083	1,764,973	2,478,016	4,340,000	91,638,961
	Daily average	878,495	723,532	886,787	123,115	67,293	56,934	79,936	140,000	2,956,032
September:	Month	26,104,264	21,402,390	25,987,102	3,780,690	1,959,720	1,718,250	2,346,480	4,200,000	87,498,896
	Daily average	870,142	713,413	866,236	126,023	65,324	57,275	78,234	140,000	2,916,647
October:	Month	26,895,160	20,821,646	26,413,167	3,429,468	2,000,027	1,956,326	2,392,952	4,482,600	88,390,346
	Daily average	867,586	671,666	852,004	110,628	64,517	63,107	77,192	144,000	2,851,300
	Total 12 months	290,496,046	257,550,910	291,098,901	39,644,744	26,613,080	21,054,083	27,012,047	45,818,600	999,287,511

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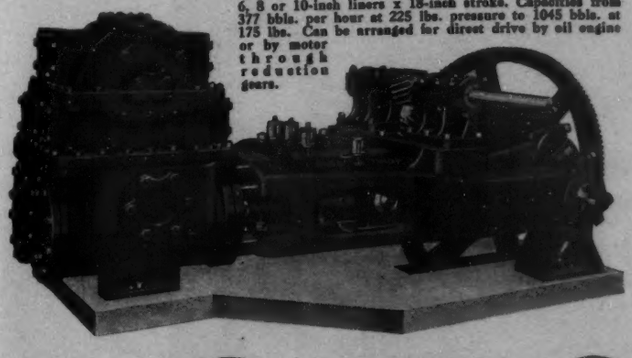

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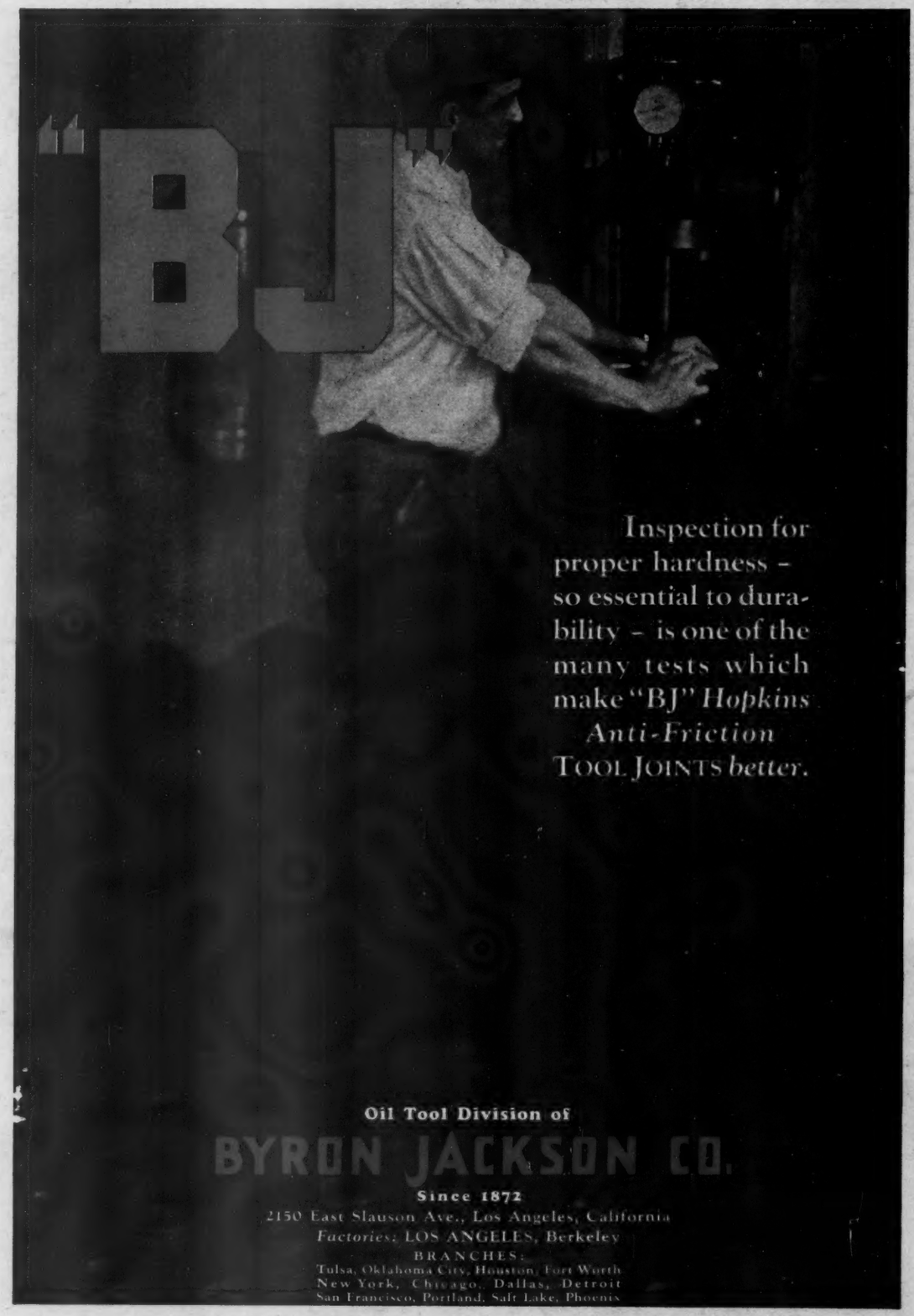
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